# THE PROMISE OF BEHAVIORAL ECONOMICS IN LOCAL GOVERNMENT: APPLICATIONS IN PUBLIC HOUSING

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## ABSTRACT

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**Title:** The Promise of Behavioral Economics in Local Government: Applications In Public Housing

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The emergence of the field of behavioral economics has provided critical insights into the way people behave when confronted with decisions. Traditionally, economic models predict behavior that is economically rational, but behavioral economics has shown how people are often irrational in predictable ways because they are being affected by different biases and heuristics. For policymakers, these insights can show ways in which governments can change their behavior to take advantage of people's humanity. This paper will show the value of taking these insights to the local level, as local governments provide a number of valuable services and account for the most direct and frequent interaction between citizens and their government. Specifically, this paper will look at the area of public housing in the United States. Public housing has gained a rather notorious reputation in the United States, as government policy and socioeconomic trends have caused public housing to house only the poorest of the poor. Still, public housing accounts for around 1.1 million households across America, and could benefit greatly from behavioral economic approaches to policy. This paper will look at the problems occurring in public housing, match these up to the behavioral "irrationalities" occurring in public housing, before finally providing a series of behavioral interventions which take advantage of these irrationalities to provide better services to public housing residents.

## BIOGRAPHY OF AUTHOR

Sean is a Business Honors, finance, and Plan II student interested in business policy, economics, government, and history. He is the sole Longhorn in an otherwise all-Aggie family (including his yell-leader dad). Around campus Sean has been involved as president of the Undergraduate Business Council, business manager of the Tejas Club, and the co-founder of the Texas Society for Policy and Enterprise, among other things. In his free time, he enjoys distance running, reading, podcasts, travel, and stand-up comedy. Sean hopes to dedicate his life to finding pragmatic policy solutions that can fuel equality of opportunity and robust economic growth.

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# CHAPTER 1:
# AN INTRODUCTION TO BEHAVIORAL ECONOMICS

The field of economics has always been about the study of human behavior and interaction within an economy. Chiefly, economics is concerned with how good and services are produced and consumed in a world where scarcity is innate to existence. Analyzing and predicting human behavior through models of said behavior is the backbone of economics. Economic discussion often gets magnified to the firm, national, and even global level, making economic concepts often abstract and larger than life, but it is key to remember that, when boiled down, the basis of all these interactions is individuals and groups of individuals, modeled as rational actors. Since the late 19th century, the dominant neo-classical approach to economics makes the simplifying assumption of treating people as mostly rational, self-interested, maximizing actors (Von Neumann & Morgenstern, 1944).[1] The name "*Homo economicus*," a play on the binominal nomenclature for humans (*Homo sapiens*) is used to characterize this rational self-interested actor. The usage of a completely distinct nomenclature to describe this kind of mythical human is telling in how divergent this kind of human is from actual members of the human species. Homo economicus is perfectly calculating, unemotional, and always maximizing for personal gain.[2]

In short, people are not the mythical homo-economicus (sometimes called "economic man") whose behavior is described in economic theory. This has always been known in a sense, but individual irrationality was either thought to be too small or too insignificant to make a

[1] "Rational" here meaning wholly acting in a way that the individual will attempt to maximize. This is in line with rational choice theory which was outlined in Gary Becker's 1976 book *The Economic Approach to Human Behavior*. For a full glossary of terms like this see Appendix A.
[2] Mullainathan, Sendhil, and Richard H. Thaler. *Behavioral economics*. No. w7948. National Bureau of Economic Research, 2000. 2-3.

difference in the behavior of a person within the model. Still, advocates of what is called a "behavioral" approach to economic study have sought to incorporate behavioral insights into new and existing economics models by understanding the biases and heuristic shortcuts that the human mind has empirically been shown to be vulnerable to. This approach is not without its critics, but now the field of "behavioral economics," or the use of psychological, emotional, and/or social insights to better understand models of economic decision-making, has become a large, albeit developing, wing of economics.[3] Already many Nobel Prizes have been handed out to behavioral economists and those who have incorporated realistic human behaviors into their theories including Richard Thaler (2017), Robert Shiller (2013), Daniel Kahneman (2002), Gary Becker (1992), and Herbert Simon (1978).[4] Governments have also taken notice of the field, and many have begun the incorporation of behavioral "units" into governments to apply existing research to modify policy in light of behavioral insights. The field is far from an understanding of all the effects of human behavior on economic outcomes, but coupled with advances in understanding of the human brain and cognition, behavioral economics can take Keynes' "animal spirits" and make them understandable.[5]

Economics is often called the "queen of the social sciences" due to its widely accepted use in society and its ability to "crowd out," in a way, the other social sciences. In behavioral economics, the queen's domineering effect is on full display. Although behavioral economics is really more psychology than economics, economists have co-opted the field. Perhaps this veil of superiority is part of the reason why economist were so reluctant to accept insights from

[3] Camerer, Colin F., George Loewenstein, and Matthew Rabin, eds. *Advances in behavioral economics*. Princeton University Press, 2011. 3-51.
[4] Nobel Media AB. "Nobel Prizes and Laureates." Nobelprize.org. Accessed November 10, 2017.
[5] Wasik, John. "4 Ways Nobel Prize Winner Richard Thaler's Work Has Improved Your Life." Forbes. Last modified October 9, 2017.

disciples of the queen's sister, psychology. The beginning of behavioral economics as a field came in the 1970s as psychologists began applying relatively recent psychological advances to economic models in ways that modified the pure rational actor theory. Daniel Kahneman and Amos Tversky, two Israeli psychologists, published a large number of papers which showed how people behaved in irrational ways when making decisions. Their first and arguably most important paper was on "Prospect Theory" (Kahneman & Tversky, 1979), in which the pair showed that a person's willingness to take risk is context dependent and results will change based on seemingly superficial things like the framing of the problem.[6] For example, Kahneman & Tversky would pose the following question to people:

1. *Which of the following would you prefer:*

*A) A certain win of $250, versus*

*B) A 25% chance to win $1000 and a 75% chance to win nothing?*

2. *How about:*

*C) A certain loss of $750, versus*

*D) A 75% chance to lose $1000 and a 25% chance to lose nothing?*

[6] Kahneman, Daniel, and Amos Tversky. "Prospect theory: An analysis of decision under risk." In *Handbook of The Fundamentals of Financial Decision Making: Part I*, pp. 99-127. 2013.

In the first question, a gain, most will choose A) and opt for a riskless $250 versus a risky weighted probability of $250 in B). Inconsistently, in the second question, which is framed as a loss, people overwhelmingly were more likely to choose D). This is because people are more sensitive to losses than they are to equivalent gains (see figure 1.1).

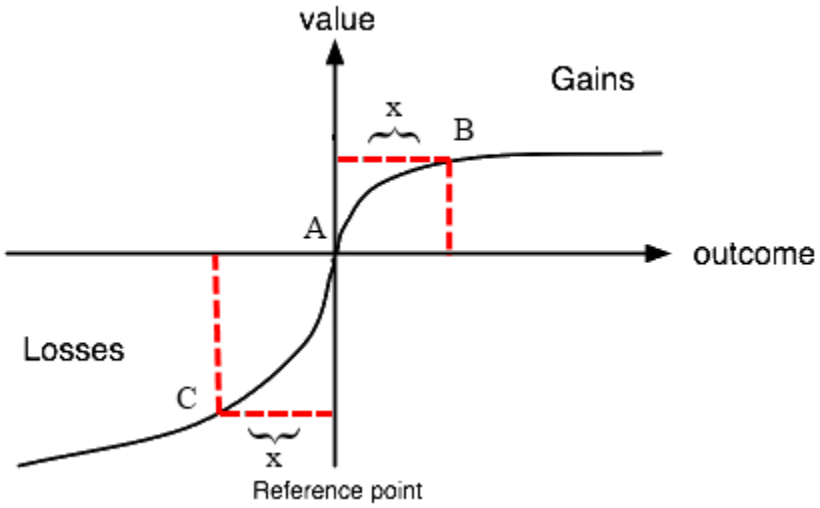


**Figure 1.1 Prospect Theory Visualized**[7]

Later additional research would bring increased insight into the other ways in which people are seemingly inconsistent and irrational. Take for example the conjunction fallacy (popularly known as the "Linda problem"), which emerges from the representativeness heuristic, which states that certain characteristics are given outweighed consideration that is out of line with said characteristic's probability and which makes observers violate fundamental mathematical logic.[8]

[7] Author/Copyright holder: JohnKiat. Copyright terms and licence: CC BY-SA 3.0
[8] Leonard, Thomas C. "Richard H. Thaler, Cass R. Sunstein, Nudge: Improving decisions about health, wealth, and happiness." *Constitutional Political Economy* 19, no. 4 (2008): 356-360.

For example, subjects were asked the following:

> *Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations.*
>
> Which is more probable?
>
> 1. Linda is a bank teller.
> 2. Linda is a bank teller and is active in a feminist movement.

The majority of subjects will choose 1., even though the probability of two events concurrently occurring is always less than or equal to the probability of just one event occurring (Kahneman & Tversky, 1983).[9] The fact that Linda is active in a feminist movement may seem relevant, but really it is just a distracting piece of information here. The kind of framing of the problem will entirely throw off respondents otherwise correct answers.

The University of Chicago's Richard Thaler was also one of the first contribute to behavioral economics. He was the first one to pioneer using intentional behavioral interventions—or "nudges"— in order to direct people to make decisions in their own interest. Thaler met up with psychologists Kahneman and Tversky while they were at Stanford in 1977-1978 to collaborate with them. He had heard about their work on decision-making and had been attempting to bring behavioral irrationalities into the field of economics itself.[10] Through these collaborations Thaler produced a paper on "mental accounting," the arbitrary labeling of liquid similar money into separate accounts based on factors like anticipated usage or source of income (Thaler, 1985), and something he called the "endowment effect," an effect which causes people

[9] Tversky, Amos, and Daniel Kahneman. "Extensional versus intuitive reasoning: The conjunction fallacy in probability judgment." *Psychological review* 90, no. 4 (1983): 293.
[10] For more information on the background of behavioral economics see: Samson, Alain. "The behavioral economics guide 2014." (2014).

to overestimate the value of items they own merely because they are in possession of it (Kahneman, Knetsch, & Thaler, 1991).[11]

Before beginning discussion in this paper, it is important to note that falling victim to heuristics and biases does not point out a particular defect in an individual, for everyone regardless of education or background is liable to fall into the traps outlined by behavioral economics because all humans use cognitive shortcuts to deal with information overload throughout the day (Samson, 2015).[12] Behavior economics taps into the fact that, although humans are capable of great intellectual feats, in daily life people are overexposed to information and thus must rely on a number of heuristics and biases to get by. Based on an understanding of people's behavioral quirks, certain subtle things can be changed or put in place in order to try to direct behavior in another direction which will yield more positive results for the individual and/or society. These are what this paper will refer as "behavioral interventions."

This paper will discuss the application of behavioral interventions in local government, specifically looking at the area of public housing. The knowledge of behavioral economics can be leveraged through behavioral interventions to improve government's efficiency and effectiveness. This, in turn, can produce better outcomes and cost savings for local governments in a variety of policy domains. This paper's focus on public housing is meant to shed light on one of those domains which is as of yet relatively unexamined. New interventions will be proposed, and conclusions will be drawn about the use of behavioral economics to combat the problems seen in public housing.

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[11] Thaler, Richard. "Mental accounting and consumer choice." *Marketing science* 4, no. 3 (1985): 199-214. And Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler. "Anomalies: The endowment effect, loss aversion, and status quo bias." *The journal of economic perspectives* 5, no. 1 (1991): 193-206.

[12] Samson, Alain. "The behavioral economics guide 2015 (with an introduction by Dan Ariely)." (2015).

# CHAPTER 2:
# THE PROMISE OF BEHAVIORAL ECONOMIC INTERVENTIONS

Behavioral economics has many elements that can lend it broad appeal across the political spectrum. It starts with the seemingly uncontroversial and research-backed premise that humans are susceptible to irrationality and that one's environment can impact behavior and decisions. From there, behavioral economics takes the next logical step and asserts that, by correcting for these lapses in human judgement, value can be created (Samson, 2017).[13] If government utilizes these insights in the same way other group such as marketing departments and the private sector have, the result is service improvement and/or cost savings at little to no expense. Behavioral economics is the low-hanging fruit of government policy which remains ripe in America even in today's hyper-partisan political climate. Indeed, the Bipartisan Policy Center's Debt Reduction Task Force included using behavioral economics to reduce the number of individuals claiming retirement benefits at an early age in its plan to strength Social Security.[14] Additionally, in 2014 the US Senate unanimously passed the American Savings Promotion Act (HR 3374), which allowed the offering of prize-linked-savings accounts, a savings incentive approach which incorporates behavioral economics strategies.[15] Finally, the independent former New York City mayor and entrepreneur Michael Bloomberg has sponsored the What Works Cities initiative to use evidence-based strategies, notably many behavioral economic ones pioneered in the UK, to improve the efficiency of America's 100 largest cities.[16]

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[13] Samson, Alain. "The behavioral economics guide 2017 (with an introduction by Cass Sunstein)." (2017).
[14] Akabas, Shai. "Social Security, Behavioral Economics, and the Power of Language." Bipartisan Policy Center, August 4, 2011.
[15] Butler, Stuart M. "Prizes for Savings: A Bipartisan Success in Congress." Brookings, December 18, 2014.
[16] Bloomberg Philanthropies. "About Us." What Works Cities.

**The Pragmatic Approach to Using Behavioral Economics**

From an academic perspective, the debate between behavioral economics and neoclassical economics is of interest, but from a policy perspective, it is not necessary to declare a "winner" before any useful public policy benefits can be had. Moreover, as Raj Chetty, Stanford economist and John Bates Clark Medal recipient, writes, "Incorporating behavioral features to the extent they help answer core economic questions may be more productive than viewing behavioral economics as a separate subfield that challenges the assumptions of neoclassical models."[17] Chetty stresses a pragmatic approach in applying behavioral economics to government services. The focus of the pragmatic approach, he says, should be not about whether individuals are fundamentally rational or about whether neoclassical models remains valid, it should start with the policy questions. For examples, "how can we increase savings rates" or "how can we reduce crime." Behavioral methods will then be included only so much as it is shown to increase the solutions to these problems. Proceeding with this approach in mind, the focus of this paper will be in finding applications that will, if implemented, improve lives. For immediate, micro-level policy considerations, the larger debate about behavioral economics is fairly irrelevant.

Even framing the conflict between these two sides as a debate is somewhat misleading. Behavioral economics in its current form does not propose any kind of stand-alone unified theory; instead, behavioral economics is merely a selective critique of existing neoclassical theory. There is not a real consistent underlying theory of behavioral economics, aside from a general notion that people behave irrationally in certain systemic, psychologically determined

[17] Chetty, Raj. "Behavioral economics and public policy: A pragmatic perspective." *The American Economic Review* 105, no. 5 (2015): 1-33.

ways. The "field" of behavioral economics is just a collection of semi-related behavioral tendencies that have been observed in humans.[18] Nevertheless, knowing these behavioral tendencies is valuable, and it is unproductive to frame behavioral economics as in conflict with the rest of economic theory. For now, behavioral economics is a series of exceptions to larger rules about people's economic behavior. Exceptions do not have to debunk a rule to be valid in their own right.

**Current Policy Applications**

Already behavioral economics has had a policy impact. Countries, particularly at the federal and national level, have attempted to incorporate behavioral economics into policymaking in order to improve government services or to save money. Perhaps most prominent among these is the United Kingdom, which in 2010 established the Behavioral Insights Team (BIT), also known as the "Nudge Unit." BIT is the first governmental institution formed dedicated to behavioral science applications. While BIT began in 10 Downing Street, it soon turned into a social entrepreneurship, co-run by the British government and the British charity Nesta (National Endowment for Science, Technology, and the Arts).[19] The group puts out original research, policy briefs, and case studies of applications. BIT will be a consistent reference point in this paper, as it has confirmed the efficacy of applying behavioral economics and local and regional levels to produce social good.

In the United States, President Barack Obama created the Social and Behavioral Sciences Team (SBST) through Executive Order 13707 ("Using Behavioral Science Insights to Better

[18] Chowdhury, Masihul Huq. "Redefining Economic Theories?" *The Independent*, October 17, 2017.
[19] Behavioral Insights Team. "About Us." Nesta.

Serve the American People"), signed in September of 2015.[20] SBST was a group of researchers who sought to apply behavioral insights, where possible, to federal programs. The effort was short-lived, as with the entry of the Trump administration in January of 2017, the team was dissolved. Unfortunately, the team did not have the reach of its British counterpart, BIT, but it still showed the possibility in the United States, of being able to incorporate behavioral economics at the federal level. SBST's work focused on increase national retirement savings and investment, increasing healthcare access, conserving energy, and even orchestrating policy responses to the Flint, Michigan lead-contamination crisis. Fortunately, there are scores, if not hundreds of other groups working on behavioral economics in the United States including universities, state and local governments, consultancies, banks, non-profits, and think-tanks.[21]

The US and UK are not alone in adopting behavioral economics when possible. Already BIT is expanding its presence into foreign nations such as Australia and the US, and national governments, in countries such as Germany and Japan, and international associations such as the World Bank and United Nations, are creating their own teams.[22]

**Overview of Existing Biases and Heuristics (Behavioral Principles)**

In a perfect world, if individuals were all *Homo economicus*, our decisions would be based on absolutely rational choice that carefully weighs the costs and benefits of all decisions based on their alignment with fixed personal preference. Of course, this is not the case. People are not always acting in their own self-interest: purchase decisions are driven, in part, by factors such as mood and environment as opposed to pure cost and benefit, we overweigh the

[20] Exec. Order No. 13707, 3 C.F.R. (2015).
[21] Supra, Note 13.
[22] "Nudge Nudge, Think Think." *The Economist*, March 24, 2012.

importance of the present and neglect to plan for the future, the list continues to go on and on. Again, there is no real unifying theory of behavioral economics. Our irrationalities are, by their very nature of being irrational, hard to describe in one fatal swoop without a more complex understanding of all the intricacies of the human brain, but various models have arisen to try to explain the process by which actual human choice works. This provides at least a conceptual framework through which individual irrationalities can be empirically investigated.

One of the first concepts of modeling human divergence from rationality is the notion of "bounded rationality", which describes how economic evidence shows that humans have restricted rationality (Simon, 1955).[23] The author, Herbert Simon, describes the gap between what an optimizer would do and what a realistic individual would do. This gap emerges for several reasons. Critically, all humans have cognitive limitations. At the same time, economics problems can be quite difficult to grasp and understand in an open-ended world, as rather than being presented merely with a choice-set, individuals choose from a theoretically unlimited set of options. Simon found other limiting factor. For instance, people have limitations on the amount of knowledge that can be processed and information that can be stored (Simon, 1982).[24] Because of this, humans have limitations on their ability to be rational. Instead of yielding optimal choices, individuals produce satisfactory results, a term Simon called "satisficing". Unfortunately, in Simon's world as in ours, psychologists have yet to unlock a full understanding of the human mind, forcing the imperfect assumption of rationality to have to dominate as the guiding light for economic behavior.[25]

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[23] Simon, Herbert A. "A behavioral model of rational choice." *The quarterly journal of economics* 69, no. 1 (1955): 99-118.
[24] Simon, Herbert Alexander. Models of bounded rationality: Empirically grounded economic reason. Vol. 3. *MIT press*, 1982.
[25] Van der Linden, Sander. "A response to Dolan." AJ Oliver (Ed.), *Behavioural Public Policy* (pp. 209-215) (2013).

Another important way to think about human behavior is that of "dual-system theory" which was best described by Kahneman's "System 1 and System 2" theory made by building upon prior work of Evans & Over, 1996; Sloman 1996; and Stanovich 1999.[26] Kahneman explains how the same people can be at once extremely analytical and thoughtful while also being prone to misjudgments and biases.[27] This is because humans are thought to have two types of cognitive systems: System 1, consists of processes that are "intuitive, automatic, experience-based, and relatively unconscious" that are rooted in impression; System 2 consists of processes that are more "reflective, controlled, deliberate, and analytical" which attempt to oversee and check mental operations.[28]

Before Kahneman and Tversky, the incorporation of known behavioral irrationalities was inexact, which led Kahneman and Tversky to develop a different methodological approach when researching human cognition. The Israeli psychologists proceed with their research through a case study-like system of experimental design which could test theories of divergence from rationality by looking at the economic decision-making of people placed under certain experimental conditions.[29] The successive development of many of these individual experimental design set ups allowed for the discovery of a whole series of biases and nudges that impact human decision-making. An understanding of these behavioral quirks collectively make-up the basis for behavioral economics. Although there are many of these "behavioral principles", below this paper will discuss some of the most notable and important. These are important to

[26] Evans, Jonathan St BT, and David E. Over. "Rationality in the selection task: Epistemic utility versus uncertainty reduction." (1996): 356.; Sloman, Steven A. "The empirical case for two systems of reasoning." *Psychological bulletin* 119, no. 1 (1996): 3.; and Stanovich, Keith E. *Who is rational?: Studies of individual differences in reasoning*. Psychology Press, 1999.
[27] Kahneman, Daniel. *Thinking, fast and slow*. Macmillan, 2011.
[28] Supra., Note 10.
[29] Ibid.,

understand for the forthcoming conversation about policy applications because these behavioral principles are constantly affecting rational judgement. Unfortunately, the behavioral economic literature is too vast, complex, and dynamic for a comprehensive evaluation of all known behavioral principles, so it will be sufficient to first look at the most prominent general principles, and then look at what the most dominant "behavioral interventions," being used to counter them are:

***Availability and Representativeness Heuristic***

People are prone to make judgements with the information they have. Since that information is often incomplete people have to try to fill those gaps of knowledge with what they do know (Tversky & Kahneman, 1974).[30] This is called the "availability" heuristic. Judgements about the likelihood of events then are often made based on the ease with which an example comes to mind, meaning that more prominent examples will stake outsized claim in our minds. For example, the fear of certain things consistently overestimates the risk of said thing: airlines disasters, shark attacks, terrorism, etc.[31] Other causes of death, such as through heart disease or traffic accident are far underestimated in their likelihood.[32] This not only causes unnecessary public hysteria over certain things, it also causes a misallocation of preventative money towards dangers that come more easily to mind, leading to the neglect of other dangers which are probabilistically dominant. This can come about in smaller, more deeply ingrained ways. Researchers have shown that individuals who are more likely to recall anti-depressant advertisements are more likely to weight depression as a greater problem (An, 2008), and

[30] Tversky, Amos, and Daniel Kahneman. "Judgment under uncertainty: Heuristics and biases." *science* 185, no. 4157 (1974): 1124-1131.
[31] Myers, David G. "Do we fear the right things." *APS Observer* 14, no. 3 (2001): 31.
[32] Ibid.

customers use the number of low-price products they can recall, rather than overall prices paid at a store, when judging that store's overall price level (Ofir, Raghubir, Brosh, Monroe, & Heiman, 2008).[33]

There are a couple of additional heuristics related to availability that are worth mentioning. First is "representativeness," the idea that certain characteristics weigh heavier in our mind than others due to prominence, so we develop an unrealistic understanding of reality (Kahneman & Tversky, 1972).[34] The "Linda problem" mentioned in the introduction is a clear example of this. Additionally, the "affect" heuristic, is a reliance on immediate good or bad feelings had in response to something as a basis for wider judgement (Slovic, Finucane, Peters, & MacGregor, 2002).[35] For example, people develop negative attitudes about certain things, and when they have limited time to make decisions, people are likely to fall back on these biases in decision-making, rather than focusing on a more analytical approach (Finucane, Alhakami, Slovic, & Johnson, 2000).[36] Finucane et al. give the example of people underestimating the benefits of nuclear power and overestimating the harms.

### *Inertia and Status Quo Bias*

People have a heavy preference for the present, even when only small sacrifices or transaction costs are necessary to switch to a more optimal alternative (Samuelson &

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[33] An, Soontae. "Antidepressant direct-to-consumer advertising and social perception of the prevalence of depression: Application of the availability heuristic." *Health communication* 23, no. 6 (2008): 499-505. and Ofir, Chezy, Priya Raghubir, Gili Brosh, Kent B. Monroe, and Amir Heiman. "Memory-based store price judgments: the role of knowledge and shopping experience." *Journal of Retailing* 84, no. 4 (2008): 414-423.
[34] Kahneman, Daniel, and Amos Tversky. "Subjective probability: A judgment of representativeness." *Cognitive psychology* 3, no. 3 (1972): 430-454.
[35] Gilovich, Thomas, Dale Griffin, and Daniel Kahneman, eds. Heuristics and biases: The psychology of intuitive judgment. Cambridge university press, 2002.397-420
[36] Finucane, Melissa L., Ali Alhakami, Paul Slovic, and Stephen M. Johnson. "The affect heuristic in judgments of risks and benefits." *Journal of behavioral decision making* 13, no. 1 (2000): 1.

Zeckhauser, 1988).[37] Samuelson and Zeckhauser show this in an example with retirement plans in which old employees were reluctant to sign up for a new plan, despite the plan having more favorable rates and outcomes. New employees overwhelming chose the new plan, yet old employees were still reluctant to switch. This bias is part of the reason ineffective laws and systems often remain in place even when viable alternatives become known and available. Additionally, Kahneman & Tversky (1982) show that, consistent with this effect, people feel more regret in making choices which result in bad outcomes than they do in remaining inactive and getting an equally bad outcome.[38] This effect can also be seen in the well-known "sunk-cost fallacy", in which people are inclined to remain attached to previously made bad investments even when sticking with those investments, despite knowing these spent funds cannot be recouped, results in a worse outcome than could have been had from switching away from said investments (Arkes & Blumer, 1985).[39] People feel mentally "tied" in this way to sunk costs.

***Present/Discounting Bias***

People overweight the utility they get out of the present (Frederick, Loewenstein, & O'Donoghue, 2002), and there is generally an inclination for immediate gratification. Present costs are immediately felt, unlike future costs.[40] This is one of the most obvious behavioral insights, but it is almost of one of the most impactful. Neglect for the future is the cause of many problems including a lack of retirement savings, improper preparation for employment, and most

[37] Samuelson, William, and Richard Zeckhauser. "Status quo bias in decision making." *Journal of risk and uncertainty* 1, no. 1 (1988): 7-59.
[38] Kahneman, Daniel, and Amos Tversky. "Variants of uncertainty." *Cognition* 11, no. 2 (1982): 143-157.
[39] Arkes, Hal R., and Catherine Blumer. "The psychology of sunk cost." *Organizational behavior and human decision processes* 35, no. 1 (1985): 124-140.
[40] Malhotra, Deepak, George Loewenstein, and Ted O'donoghue. "Time discounting and time preference: A critical review." *Journal of economic literature* 40, no. 2 (2002): 351-401

other forms of short-term thinking. Combining this with over-optimism in the future and in our own future behavior increases the impact of this bias.

***Over-Optimism***

Despite an embedded conservatism elsewhere in effects like people's inclination to be loss-adverse, people are consistently shown to overestimate the probability of positive events and underestimate the probability of negative events. Even with correct probability assumptions, future planning is often based on optimistic outcomes or even average outcomes, when below-average outcomes are intractably just short of 50% of all possible outcomes. Part of the cause of this is likely from people having more perceived control over life factors than is actually had, and part may also come from the same cognitive factors outlined in representativeness (Shepperd, Carroll, Grace & Terry, 2002).[41]

***Loss aversion***

An important part of prospect theory is loss aversion (Kahneman & Tversky, 1979).[42] Put simply, "losses loom larger than gains." This bias feeds into a number of different other cognitive factors such as the endowment effect, sunk cost fallacy, and status quo bias. This is not a trivial effect. The pain of losing is thought to be potentially twice as potent as the gains from winning.[43] Fryer at el. 2012 showed the downside of negative behavior is more impactful than framing the upside of stopping negative or even preventing behavior. Take, as an example, a study that looked at the structure of teacher bonus pay. The study found it is more motivating to face the threat of losing a bonus than it is to be presented with the opportunity to gain a bonus. A

[41] Shepperd, James A., Patrick Carroll, Jodi Grace, and Meredith Terry. "Exploring the causes of comparative optimism." *Psychologica belgica* 42, no. 1/2 (2002): 65-98.
[42] Supra., Note 6.
[43] Supra., Note 12. 36-38.

group of teachers who received a bonus first that would need to be returned upon not meeting certain test scores, performed better than those merely presented with the prospects of gaining a bonus for reaching similar test score levels.[44]

***Social Dimensions***

Human actions are often shaped by the actions of those around us. Appropriate social norms can change drastically from one environment to the next due to the both conscious and subconscious social signaling that communicates what the rules and expectations of a group are (Ariely, 2008).[45] Social norms can give feedback to an individual based on how "approved of" something is (i.e., is this action viewed favorably or unfavorably by a group), and/or it can give feedback as to how in-line with majority behavior an action is (separate from how that action is judged).

Few people are motivated by self-interest alone, and concern for others is shown even in anonymous experiments (Krueger, Massey, & DiDonato, 2008).[46] In some ways the rational actor model can explain social cooperation on the basis of the need for economic cooperation and charitable giving as a way to earn reputational advantages, but people exhibit a tendency toward unselfish behavior that goes beyond just the personal benefits reaped (Camerer, 2003).[47] Overall evidence shows people exhibit a generally high amount of trust and inclination toward fairness (Evans & Kruegar 2009).[48]

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[44] Fryer Jr, Roland G., Steven D. Levitt, John List, and Sally Sadoff. *Enhancing the efficacy of teacher incentives through loss aversion: A field experiment.* No. w18237. National Bureau of Economic Research, 2012.
[45] Ariely, Dan. *Predictably irrational*. New York: HarperCollins, 2008.
[46] Krueger, Joachim I., Adam L. Massey, and Theresa E. DiDonato. "A matter of trust: From social preferences to the strategic adherence to social norms." *Negotiation and Conflict Management Research* 1, no. 1 (2008): 31-52.
[47] Camerer, Colin F. "Strategizing in the brain." *Science* 300, no. 5626 (2003): 1673-1675.
[48] Evans, Anthony M., and Joachim I. Krueger. "The psychology (and economics) of trust." *Social and Personality Psychology Compass* 3, no. 6 (2009): 1003-1017.

## Overview of Common Behavioral Interventions ("Nudges")

### *Rational-Actor Tools Versus Behavioral Tools*

The rational agent model posits that individuals and organizations, are driven by self-interest to make choices based on all available information. In this model, the main tools for achieving objectives are information, incentives, and regulation. *Information* as a tool involves exposing people to new facts and ideas, under the assumption that having enough accurate information will lead to a maximizing decision being made. *Incentives* as a tool involves providing reward or punishment, financial or otherwise, to motivate certain behaviors from people. *Regulation* as a tool involves mandating or prohibiting certain behavior through force of law which provides punishment for non-compliance.[49] These tools are used by governments to bring the interests of individuals and organizations into line with society's goals.

It is important to understand that not all market failures are behavioral failures in the sense of people failing to behave rationally. For examples, not having information about something or not having the right incentives to do something are not behavioral failures, even though behaviors may be impacted. A smoker, for example, who sincerely does not know about the health hazards smoking causes is not acting in violation of his own best interests, he is merely informationally deprived. Thus, warning labels on packs of cigarettes would not be considered a behavioral strategy, but graphic warning labels showing blackened organs or lung cancer victims, could be. The latter is not trying to provide any new information, it is trying to do something in addition to information by trying to counter behaviors of the individual that go against his own our best interest. The same thing can be seen with incentive strategies.

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[49] Arinder, Max K. "Bridging the Divide between Evidence and Policy in Public Sector Decision Making: A Practitioner's Perspective." *Public Administration Review* 76, no. 3 (2016): 394-398.

Individuals who do not recycle, do so because they have no individual incentive to do so. This kind of behavior hurts society at-large, but it is not in violation of the rational actor model. As rational actors, individuals are purely self-interested, and because of this they have no individual incentive to recycle, and society at-large suffers. This is a case of negative externalities and market failure, but not behavioral failure. A rational-actor-minded change of incentives might pay individuals or companies for recycling; while a behavioral change might label the trashcan with a sticker reading "to landfill" to encourage people to throw their recyclables in a nearby bin. According to the rational actor model, the latter should have no effect, yet when students at the University of Pittsburg tried this they were able to increase recycling by 29%.[50] It is not new information that this trash's contents are probably going to a landfill, yet by changing the framing of the trash-can waste to "landfill" waste, individuals relate their action to their disgust of landfills and as a result changed their behavior. This is perhaps an outwardly trivial example, but it conveys well the way behavioral tools seek to make change. It also conveys the difference between a behavior change using rational-actor assumptions and behavior change using insights from behavioral economics. As in the landfill example given, behavioral insights are not just useful in better tailoring traditional economic tools. They can also be used entirely independent of the normal tools of information, incentivization, and regulation. Of course the two (rational-actor tools and behavioral tools) are not entirely siloed. Some behavioral changes tap into tools traditionally recognized by rational-actor models, as in the smoking example; the graphic imagery is an extension of providing information. Noting examples like this, it would be unproductive to further belabor the differences and insist on defining tools as either entirely

[50] Schiller, Ben. "U Of Recycling: Creative Signage Gives A Nudge." *Fast Company*, November 14, 2011.

"rational" or "behavioral." The two are often intertwined. This paper only does so here to demonstrate what it is that behavioral economics is providing that is new.

***The Origin of the Behavioral Interventions Through Nudges***

The pioneers of applying behavioral economics to policy, Richard Thaler and Cass Sunstein outlined what they called "nudge theory," which takes advantage of "nudges" to subtly direct human action without coercive or direct force. If negative behaviors are being made as a result of irrational behavioral factors (biases and heuristics), then changing the context or choice architecture ("the physical, social, and psychological aspects of the contexts that influence and in which our choices take place") of a system can change outcomes.[51] Nudges sound complex, but in practice they are often easy to notice. Many will even ring as fairly intuitive to anyone who understands human character. Indeed, this is part of the beauty of the nudge. It takes advantage of small irrationalities in human behavior to produce outsized benefits. Many of these behaviors and fixes were obvious, yet for whatever reason, behavioral irrationalities were being overlooked, with nothing done to counter them. Through the framework of behavioral economics significant value has been gained for individuals and governments by capitalizing on irrationalities.

This paper will often refer broadly to "behavioral interventions" as basically synonymous with "nudges". This is done to express a broader category of interventions that may sometimes fall out of what explicitly can be considered a nudge. Additionally, this paper also seeks to avoid getting caught up in adhering to definitional considerations that linger if using Thaler and Sunstein's original term "nudge." The categories listed below are just some of the most common

[51] Supra., Note 8.

and efficacious examples of nudges. Like with the discussed behavioral interventions, these are critical to understand because they are so ubiquitous to the world of behavioral economics. One will also notice that certain nudges partially overlap. For example, Thaler's famed "Save More Tomorrow" program, in which participants automatically pay a portion of their future raises into retirement investment, is both an example of using defaults and commitment devices to secure an outcome.[52] Again, the categories are meant merely as a classification, not as a comprehensive taxonomy.

### *Defaults*

Making something the default option should not matter to a rational actor, as he or she will choose his or her preferred option regardless. Behavioral economics has revealed defaults actually matter an incredible amount. Despite its simplicity, changing something to a default is perhaps the most effective "nudge" ever designed. The increase of retirement savings primarily through defaults is arguably behavioral economics' largest contribution to the policy world (Madrian & Shea, 2001).[53] Benartzi and Thaler designed a program called "Save More Tomorrow" or SMarT which increased employee's savings rates by default enrolling them in a program which automatically increased the percentage of their wages devoted to savings. Savings rates for SMarT participants increased from 3.5% to 13.6% while rates for one control group making their own decisions and another making one-off savings increases remained stagnant (Benartzi & Thaler, 2004).[54] Additionally, in a now famous paper Johnson & Goldstein (2003) showed that having organ donations as the default choice caused consent rates of near 90-

[52] Thaler, Richard H., and Shlomo Benartzi. "Save more tomorrow™: Using behavioral economics to increase employee saving." *Journal of political Economy* 112, no. S1 (2004): S164-S187.
[53] Madrian, Brigitte C., and Dennis F. Shea. "The power of suggestion: Inertia in 401 (k) participation and savings behavior." *The Quarterly Journal of Economics* 116, no. 4 (2001): 1149-1187.
[54] Supra., Note 52.

100% as opposed to countries that required an opt-in system which had consent rates of anywhere from 4.25% (Denmark) to 27.5% (Netherlands), despite the fact that these countries shared similar cultures. Take Austria and Germany for example: two strikingly similar cultures, but the compliance rate in the former is 99.98% versus only 12% in the latter.[55]

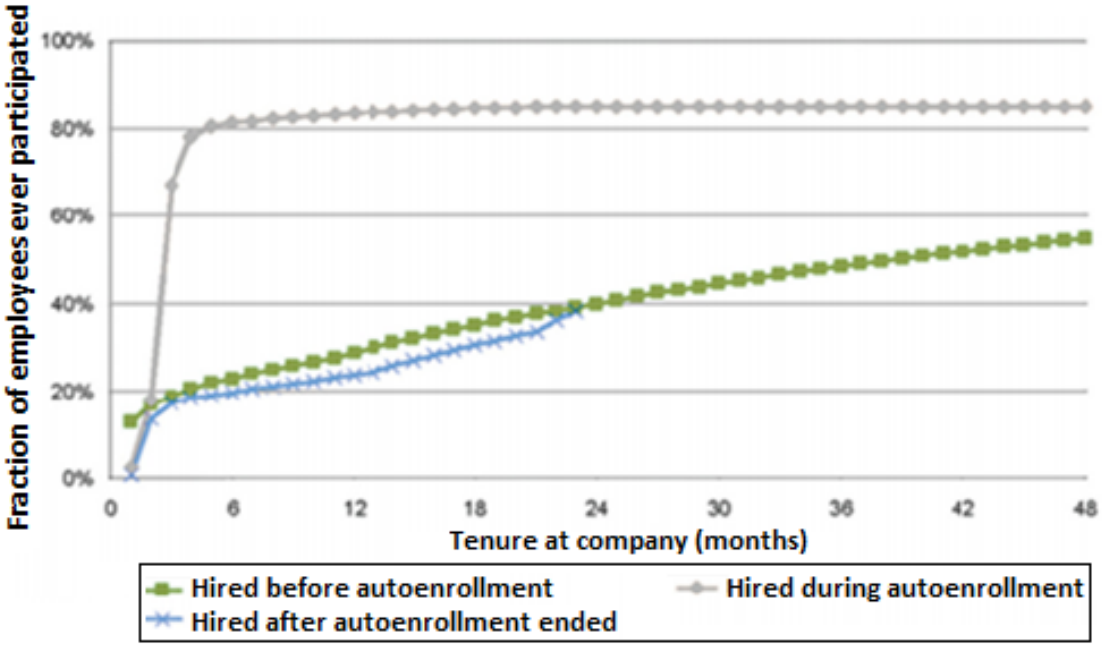


**Figure 2.1 The Effectiveness of Defaults as seen in Madrian & Shea (2001)**

### *Framing*

The wording and presentation of facts and options matters significantly, even when the fundamental information conveyed is the same. For example, patients who are told that "90% of those" who have a certain operation are "alive after five years," are substantially more likely to have the surgery than when they are told that "10% of those who have the surgery are dead after five years." This conveys absolutely the same information, but shifts the focus to either the more

[55] Johnson, Eric J., and Daniel Goldstein. "Do defaults save lives?." (2003): 1338-1339.

positive or more negative element (McNeil et al., 1982).[56] Hasseldine et al. (2007) showed framing also matters in tax compliance. Letters with different framing (although all still making the same demands) were sent to 7,300 sole proprietors. One letter offered assistance with tax forms, another offered rational arguments as to why citizens should pay their taxes, and the final threatened an audit and penalties. The messages had vastly different success rates, with the threatening one being the most effective at encouraging tax payment.[57]

***Reciprocity***

Reciprocity, or the response to an action with an equivalent action, takes advantage of social dimensions which can shape human behavior outside of what is rational (Fehr & Gächter, 2000).[58] These exchanges are usually positive, but can be negative. One famous examples of reciprocity at work comes from charities which, in an effort to increase charitable givings from employees at a bank, gave out sweets as employees entered into their building. Additionally, for some employees the CEO sent out a personalized email. All employees were asked to donate a day's salary to a charity and were given either one or both of the treatments (sweets and personalized email) or put in a control group consisting of people receiving only a control generic email from the CEO. Of the groups, the control group had only 5% donate; the group receiving the sweets alone donated 11%; the group receiving a personalized email alone donated 12%, and the group receiving both the sweet and the personalized email donated 17%. (Behavioural Insights Team, 2013). Grocery stores intentionally try to generate reciprocity with

[56] Hanley, James A., and Barbara J. McNeil. "The meaning and use of the area under a receiver operating characteristic (ROC) curve." *Radiology* 143, no. 1 (1982): 29-36.
[57] Hasseldine, John, Peggy Hite, Simon James, and Marika Toumi. "Persuasive communications: Tax compliance enforcement strategies for sole proprietors." *Contemporary Accounting Research* 24, no. 1 (2007): 171-194.
[58] Fehr, Ernst, and Simon Gachter. "Cooperation and punishment in public goods experiments." *American Economic Review* 90, no. 4 (2000): 980-994.

free samples, and clever salespeople try to do the same by starting with a big ask then slowly whittling it down to a much smaller ask.[59]

***Simplification***

The trope that "more is better" is not always the case. In fact, when it comes to helping people choose optimal decisions, more is often worse in certain areas. Simplifying choices limits the complexity of a problem, ensuring that people aren't deterred from enrolling in programs because of the time, expense, and complexity of enrollment. Additionally, complexity can seriously mar an individual's ability to pick the most optimal option for one's own situation by introducing unnecessary options that distract from making a reasonable choice.[60] This is an especially pronounced effect when choices are being made about complex issues. Many potential options may be objectively undesirable to nearly all, but individuals who do not fully understand the choice that is being made are liable and in some cases even likely to choose poor decisions. This is partially an informational problem, but even though the information is available in some form, it can be hard to make sense of. Financial management issues are a common area where this kind of complexity is seen. Perhaps the most obvious examples of the simplification nudge is, again, in the area of retirement savings. Through a "Quick Enrollment ™" system, employees were able to enroll in a 401(k) plan at pre-selected contribution rates and asset allocations. At one company this system tripled 401(k) enrollments.[61] Notably, Quick Enrollment ™ not just made enrolling easy, it simplified choices to a pre-selected asset allocation, reducing complexity and with it the risk of individuals unwittingly picking bad options out of ignorance. Most simple

[59] Behavioural Insights Team. "Applying behavioural insights to charitable giving." Cabinet Office (2013).
[60] Supra., Note 8.
[61] Choi, James, David Laibson, and Brigitte Madrian. *Reducing the Complexity Costs of 401 (k) Participation Through Quick Enrollment (TM)*. No. w11979. National Bureau of Economic Research, 2006.

retail investors will desire similar asset allocations. Additionally, portfolio theory shows that most options an investor could hypothetically choose would be objectively sub-par. Investment and areas of similar complexity well illustrate why too many choices can easily become a bad thing. The extensive paperwork associated with processes like taxation, insurance, application for benefits, application for college, and many others are areas ripe with potential simplification benefits.

### *Social Norming*

Social norming, or taking advantage of an individual's desire to be accepted by others thereby pressuring said individual's actions to be in line with community norms, is another consistently effective nudge. This involves telling individuals variations of "most people plan to do [x]." It is recommended that this information is kept as local and specific as possible to add to the effectiveness of this nudge (e.g., "nine out of ten people on your block pay their taxes" as opposed to "most of your neighbors pay their taxes").[62] Norming can have negative outcomes if it is found that most people are actually acting negatively, as this will encourage those formerly obeying the rules to now being acting negatively. For instance, Cass Sunstein recommends that if the target behavior is not currently being done by a majority, norming can still have the same positive impact by substituting, "most people are doing [x]" with "most people think people should do [x]."[63]

[62] Behavioural Insights Team. "Behavioural Insights Team annual update 2010–11." Cabinet Office: London, UK (2011).
[63] Sunstein, Cass R. "Nudging: a very short guide." *Journal of Consumer Policy* 37, no. 4 (2014): 583-588.

***Disclosure***

Disclosure strategies of behavioral change are centered on giving people information that makes the effect of present and past decisions more evident. A traditional rational actor model would still expect changes in behavior based on new information, so the important contribution made by a disclosure arrangement is to clarify or make more present existing information. Food packaging, for example, may contain all vital nutrition information on it already, but it may be concealed on a back label. A disclosure strategy would involve making this information more visible and adding markings, like a green to red color scale to indicate the health of an item.[64] Bertrand & Morse (2011) tested disclosure strategies with payday lending borrowers. Many fail to appreciate the effects of interest, and a borrower underestimating payments can quickly find himself underwater.[65] The payday loans studied, for example, had an annualized interest rate of several thousand percent. A simple disclosure chart highlighting the true absolute dollar cost of the loan, as compared to say a 20% APR credit card reveals how much a loan actually costs (see Figure 2.2). Showing, in this way, the effect in actual dollars as opposed to interest rates decreased borrowing in the subsequent four months of the study following treatment. This intervention is similar and often overlapping to the earlier mentioned strategy of framing.

[64] Mathios, Alan D. "The impact of mandatory disclosure laws on product choices: An analysis of the salad dressing market." *The Journal of Law and Economics* 43, no. 2 (2000): 651-678.
[65] Bertrand, Marianne, and Adair Morse. "Information disclosure, cognitive biases, and payday borrowing." *The Journal of Finance* 66, no. 6 (2011): 1865-1893.


**Figure 2.2 Disclosure strategies in Payday Lending (Bertrand & Morse, 2011)[66]**

***Pre-commitment***

Commitment devices are interventions used to achieve specific future outcomes by having individuals commit to something in the present that will change their outcome in the future by restricting future behavior or increasing the likelihood of certain outcomes. Commitment devices have been used in a variety of economic and health-related trails. BIT looked at reducing the number of "did not attends" in Britain's National Health Service (NHS), by having a variety of behavioral commitment interventions including written commitments and normative messaging (i.e., indicating how many patients turn up on time for their appointments).[67] A variety of these programs have been used to encourage savings, especially in

[66] Ibid.
[67] Martin, Steve J., Suraj Bassi, and Rupert Dunbar-Rees. "Commitments, norms and custard creams–a social influence approach to reducing did not attends (DNAs)." *Journal of the Royal Society of Medicine* 105, no. 3 (2012): 101-104.

developing nations. Commitment devices such as restricting savers access to their own money, help individuals avoid impulse, and act in their own long-term best interest.[68]

### *Reminders*

Simple as they may be reminders are not something needed by a perfectly maximizing actor. The idea that providing reminders, especially timely ones, can impact behavior is not especially novel, yet this intervention is not used as actively as it could be. Studies consistently show that reminders can have small but consistent improvements on savings rates, college enrollment rates, and loan repayment rates. (Castleman, 2013; Cadena & Schoar, 2011).[69]

### *Channel Factors*

Channel factors are small, subtle stimuli or response pathways which influence an individual's progress toward some behavioral outcome.[70] If one thinks about the steps required to produce some outcome, channel factors are those influences which move a person along that final state. Some channel factors may be rational, but the behavioral economic relevance here is that often channel factors are minor details that should not be relevant to a rational actor. A classic example of this is when, in the 1960s, Yale researcher Howard Leventhal attempted persuade students to get a shot to inoculate tetanus by persuading them with pictures of tetanus victims. Even though his message was effective, and students were convinced that they ought to get inoculated, only 3% went versus 28% when Leventhal gave the students a map with the

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[68] Brune, Lasse, Xavier Giné, Jessica Goldberg, and Dean Yang. "Commitments to save: A field experiment in rural Malawi." (2011).

[69] Karlan, Dean, Margaret McConnell, Sendhil Mullainathan, and Jonathan Zinman. "Getting to the top of mind: How reminders increase saving." *Management Science* 62, no. 12 (2016): 3393-3411. and Castleman, Benjamin L., and Lindsay C. Page. "Summer nudging: Can personalized text messages and peer mentor outreach increase college going among low-income high school graduates?." *Journal of Economic Behavior & Organization* 115 (2015): 144-160.r

[70] Bertrand, Marianne, Sendhil Mullainathan, and Eldar Shafir. "A behavioral-economics view of poverty." The *American Economic Review* 94, no. 2 (2004): 419-423.

campus infirmary circled and had the students pick and schedule for themselves a time to go to the infirmary. The map and the scheduling are channel factors, and despite being seemingly unimportant, they made an enormous difference in the outcome.[71]

**Conclusion: Toward New Behavioral Interventions**

Behavioral economics is leading us to a more efficient society, in which even small elements of interactions are looked at rigorously for sub-optimality. While the field will likely continue to grow, it has high expectations to meet in continuing to counter the concerns of its detractors. A better understanding of the human mind, could allow for there to one day be a universalized general theory of behavioral economics which explains all human deviations from rationality and the underlying causes of those deviations. Today's approach to behavioral economics does not often take into account the psychological determinants of the discovered irrationalities, but one can imagine a day when the field would be able to.

Such a broad field may better be described by what it is not. Behavioral economics is not about forcedly controlling behavior, it is not about political ideology, and it is not about establishing a more paternalistic society.[72] Behavioral methods can influence people in small ways; it can never control someone's thoughts in the way some commentators fear. Categorizing human behavior as irrational is not about pointing out any shortcomings of the morals or character of said people. Instead, behavioral economics deals with the ways in which humans are wired "incorrectly"; it deals with population-wide ways that human behavior differs from that of the rational actor model. These facts are essential to keep in mind as this paper begins its analysis

[71] Leventhal, Howard, Robert Singer, and Susan Jones. "Effects of fear and specificity of recommendation upon attitudes and behavior." *Journal of Personality and Social Psychology* 2, no. 1 (1965): 20.
[72] Supra., Note 10.

of public housing. Interventions are not meant to “social engineer” as some have claimed, they are merely giving recognition to the fact that government policy, housing included, for long was ignorant of the importance of the phycological byproducts of policies.

The next chapter of this paper, Chapter 3, will explain more about how behavioral economics interventions can be created and why interventions at the local level can be so successful. The chapter that follows will begin our discussion of public housing, before the final chapters begin to discuss new potential interventions designed specifically for public housing.

# CHAPTER 3:

# BEHAVIORAL ECONOMICS IN LOCAL GOVERNMENTS

The nature of behavioral interventions is that they are specific to a context and very dependent on empirical testing to see if the interventions hold in reality. Interventions in the abstract may appear that they are going to work because they take advantage of the same biases and heuristics as existing interventions, but other unknown or unseen influences might be at work and undermine the new intervention. This is not occurring because previous similar behavioral interventions were erroneous, the new intervention may just not carry over to new contexts for whatever reason.

Take, for example, experiments in honesty priming, a behavioral intervention that tries to "prime" honest behavior by preceding the task with some intervention that is meant to put honest behavior at the forefront of his or her mind. This is done by methods such as prompting individuals to think about ethical choices, having them read a short passage about the importance of honesty, or having them sign something pledging their honesty at the beginning of a task. Once the individual is primed, some task is performed and the "honesty primed" group is compared to a control group. Applications often include self-reported information such as miles driven used for car insurance purposes, taxes owed, and alcohol and substance usage.[73] Hallsworth et al. (2014) found that found that through honesty priming and social norming, the UK government was able to increase the fraction of tax payers who paid their taxes on time.[74] Experiments like this are an exciting example of behavioral interventions at their best. The implication seems to be that by simply changing the way a message is given to people,

[73] Hallsworth, Michael. "The use of field experiments to increase tax compliance." *Oxford Review of Economic Policy* 30, no. 4 (2014): 658-679.
[74] Ibid.

governments can make people behave more ethically. If this is really the case, governments around the world should immediate start implementing honesty priming policies to get their citizens to pay their tax on time as has been done in the UK. After all, to get this kind of result with rational-actor tools, the government would have to hire more tax collectors to monitor citizens or impose new politically unpopular regulations like stricter fines and penalties for not paying taxes in a full and timely manner. These are examples of "rational actor" tools; these tools no doubt work, but they can be clunky in that coercing behavior can be difficult in a democratic society, even if this behavior is for the betterment of the nation.

The caveat to all of this is that the actual implications of interventions can be far more limited than they might initially appear. Perhaps there is something particular about citizens in the United Kingdom that makes them prone to respond to the interventions in the way that they did; it could be their culture, their sense of trust in their institutions, or even their perception of the effectiveness of government tax collectors. If that is the case, the results of this intervention may not be as exciting as they first appeared to be. Again, this is not because of erroneous practices in the initial experiment, intervention results are just context-dependent. Guatemala was interested in leveraging these results, and similar interventions done using behaviorally-informed letters and social norming in the country appeared to be fruitful. Receipts from income tax payers more than tripled and "shaming" citizens in to paying their taxes seemed to be effective.[75] One might expect that since other behavioral interventions in Guatemalan tax policy had shown success, honesty priming experiments would also perform well. Unfortunately, a massive study in Guatemala of 627,242 taxpayers with 3,232,430 tax declarations over the

[75] Kettle, Stewart, Marco Hernandez, Simon Ruda, and Michael A. Sanderson. "Behavioral interventions in tax compliance: evidence from Guatemala." (2016).

course of four months showed no results. A range of treatments were administered: honesty declaration, information about public goods, information about penalties for dishonesty, and questions allowing taxpayers to select what they thought the money should be spent on, all had no impact on the average amount of taxes one declared (Kettle et al, 2017).[76]

This result is disappointing, but further confirmation that behavioral interventions must be thoroughly tested in each new environment. The fundamental appeals of behavioral economics are still in existence, they just must be tempered by reality. Fortunately, interventions are often able to be tested through randomized controlled trials (RCTs) which provide ideal experimental design. Trials can be run in each new environment to confirm whether or not an intervention works, and through the accumulation of successes and failures, a better understanding of specific interventions and environments can be gained. Perhaps, cities are less susceptible to interventions that target social norming, than are rural areas. Potentially interventions that use defaults are most effective in contexts in which individuals have low information or are dealing with significant complexity. All of this can be tested. This is the research process in action; it is continually refining on a thesis, and because behavioral interventions are so often so well testable in the smaller contexts in which they will be used, clearer results can be gathered than with, for example, macroeconomic stimulus packages or other large-scale policy issues. Good control environments cannot always be had and too many confounding variables can muddy conclusions.

[76] Ibid.

**The Appeal of Behavioral Economics Use at Local Level**

While many national programs have been created to focused on modifying government policy in light of behavioral economic insights, these reforms have yet to trickle to all levels of government. Local government including cities, townships, counties, school districts, and special districts have a smaller stature and lower profile than state and federal government, so they can be easy to pass over. In doing this, a grand opportunity is missed. In the United States local governments alone account for $1.5 trillion worth of government spending.[77]

Behavioral economics lends itself to extreme scalability. For each promising intervention that is found to work, replication can be attempted across the world. It is not zero-sum. Eventually each local environment can assemble its own "portfolio" of effective interventions. Behavioral interventions done or directed at the state and federal level can be effective in that they affect a lot of people. This top-down approach can work well to incorporate nudges that are well-known to work across a variety of contexts. Since there are only a few major agencies that would need to adopt these policies, it would likely be cheaper and politically easier to have implementation mandated from the top-down. A simple example of this is in countries which leverage defaults to increase organ donation. Rather than having to go county-by-county and convince each one of the merits of behavioral economics, a nation-wide agency can merely adopt a policy for the entire country.

Because of the appeal of quick, one-step adoptions like in the example above, it can be easily to overlook the merits of a local, grassroots-type approach to behavioral intervention. Whether it's done at the city, county, or even state level, a localized approach to behavioral

[77] Urban Institute. "State and Local Finance Initiative: State and Local Expenditure." Urban Institute, 2016.

economics has its advantages. To begin, even if federal government agencies are using certain interventions implemented in a top-down fashion, there is no guarantee that this knowledge of behavioral best practices is getting distributed down to local entities. Even agencies sharing the same mission can be siloed in their implementation and individual roles. To get these practices implemented at the local level, policymakers may have to go city-by-city to ensure correct usage. From there, interventions that have been found to be effective in certain contexts can be spread in a grassroot style to other places. Michael Bloomberg's What Works Cities program is founded on this idea. To quote the program, "cities come in all shapes and sizes, but they all serve the same mission: to help residents in the most effective ways possible."[78] With this attitude in mind and "bridging" type programs which connect knowledge and data between cities, good local policies can achieve larger scales. Indeed, Bloomberg's program has taken up behavioral interventions as one of the ways to make changes at the local level. Local governments have the autonomy necessary to try out policies, without having to corral the high amounts of political capital necessary to make changes elsewhere.

Outside of relatively infrequent interactions like voting in federal elections, tax payments, and military service, Americans have fairly little day-to-day and face-to-face interaction with the federal government. Although some federal agencies do have a significant presence around the country and many others shape important nation-wide policies, much of this is done behind the scenes or by funding and administering programs at the state and local level. The policy this paper focuses on, public housing, is a prime example of this, as although the federal government provides the funding for housing programs, they are administered at the local level by entities called Public Housing Authorities (PHAs). Recall that behavioral interventions are contextual

[78] Supra., Note 16.

and happen at the hyper-specific level (e.g., changing the way forms are written, changing the size of dining plates, or changing the graphic on a label). Because of this, most of the opportunities to intervene and nudge people in a certain direction happens at the point of interaction between the government and an individual. Local government then is appealing for behavioral interventions if only because of the sheer number of interactions that happen between local governments and citizens. Local governments run and administer programs in a number of different policy areas including taxation, public health, energy and utilities, crime, education, transportation, and public assistance. The bureaucracy of local government is large and constantly interacting with citizens in everything from the collection of trash to the distribution of licenses. If each of these interactions is thought of as an opportunity, behaviorally-informed policymakers will be able to look at thousands of situations for behavioral interventions. The details of these interactions matter as we have clearly seen with behavioral economics, but too often these get lost as afterthoughts, especially at the local level.

**How to Create Behavioral Interventions**

Creating a source for consistent behavioral intervention in local government requires both the cooperation of behaviorally-informed policymakers and civil servants who are on the "front-lines," observing day-to-day irrationalities. Behaviorally-informed policymakers should have an in-depth knowledge of both behavioral economics and their specific policy realms. Their primary objective ought to be on finding the links between problems that are observed in local government, the biases and heuristics driving those problems, and the behavioral interventions which can be used to counter those specific problems. Figure 3.1 shows this for the example of public housing which this paper will cover in-depth in the coming chapters. These links are

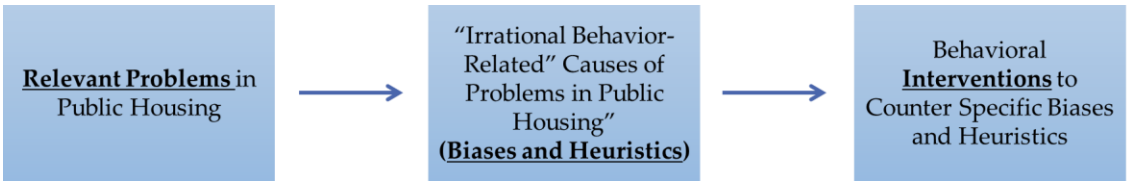


**Figure 3.1 Linking Problems Seen in Government to Behavioral Solutions**

critical to establish, but sometimes difficult. As we will see in public housing, it can be hard to see these links because the causation of problems is not always clear. If policymakers can establish this kind of a framework, they can essentially pull from existing knowledge in behavioral economics to find appropriate interventions that have been used in other contexts. Once these steps are taken, creating successful, behaviorally-informed policies is just a matter of adapting interventions to be used in the new contexts. A de-facto "codex" of sorts, full of all the collective knowledge of the field of behavioral economics (behavioral factors and interventions), is in the process of being assembling with each new paper published. Again, this makes the job of behavioral policymakers much easier, as they can readily plug-and-play existing solutions into new contexts. A secondary objective for them is to design new behavioral interventions to fit new contexts, but even without doing this, behavioral-informed policymakers can have a huge impact in helping governments to maximize their interactions. These individuals can hover around different local governments and groups to provide expertise and to learn from "front-lines" civil servants.

"Front-lines" civil servants have a too-often overlooked role to play in designing effective behavioral interventions. Think of them as the sources of the data that behaviorally-informed policymakers will then use to connect the dots between problems, biases/ heuristics, and interventions. They are important because if policymakers are given bad data, their intervention is going to be ineffective, as it is not targeting the right kinds of behaviors. Civil

servants include everyone from bus drivers to police officers to social workers. These people are directly interacting with the public, so they see all the problems in local government up close and understand the nuances of them. Some problems may be too small for policymakers to notice, or too convoluted for policymakers to connect to behavioral irrationalities. Civil servants can fix that by being the subject matter experts for persistent problems seen directly in their role. Still, it can be difficult to figure out how to best equip civil servants to begin participating in looking for new interventions. They need to have some understanding of behavioral economics, but they need not be experts. Cities should try out different iterations of programs to get civil servants informed and connecting with behavioral policymakers.

**Conclusion: Public Housing as a Test Case**

Behavioral interventions are about redesigning the contextual and environmental features located around the individual to either mitigate or exploit the behavioral factors (biases and heuristics) which an individual is subject to. Public housing provides an attractive test case since it is an environment which residents are interacting with all the time. Additionally, there are a number of interactions residents must have with officials from PHAs and other local governmental and non-governmental groups. Chapter 4 will give a brief history of public housing in the United States and address the program's current state. Chapter 5 will discuss the problems seen in public housing and make the critical distinction between problems *seen in* and problems *of* public housing. It will also discuss what the causal mechanisms underlying these problems are. Chapter 6 will take the framework used in chapter 5 to discuss the irrational behavior-related causes of problems in public housing, before chapter 7 will finally discuss interventions in public housing which can help improve the lives of residents in public housing.

# CHAPTER 4:

# PUBLIC HOUSING DESCRIPTION AND HISTORY

Public housing in the United States operates to give low-income families and individuals access to modest affordable housing to help them avoid homelessness and housing instability. "Public housing" is a term often used inexactly to describe all publicly funded or assisted housing programs, but the term applies to a specific federal program that is one the main ways that rental assistance is given to low-income Americans, the others being "Section 8" housing vouchers and project-based rental assistance (PBRA) (See Appendix C for a full description of all of these).[79] Housing vouchers, or "tenant-based" rental assistance, subsidizes families who rent private apartments, and "project-based" rental assistance (PBRA) contracts with private owners to rent some of the units of a housing development to low-income families. Importantly, public housing (as outlined in The Housing Acts of 1937 and 1949) which predates other government rental assistance programs, differs from other programs in that the state actually owns and administers residential properties rather than just subsidizing families to be housed in private residences.[80]

Since the 1960s and 1970s public housing has developed a decisively negative reputation, and as such it has declined in usage in lieu of other affordable housing schemes. Although public housing was first was proposed as a progressive-era sanitation measure to clear cities of "diseased" slums, it has become to many synonymous with crime, racial segregation, and violence.[81] Notably, while the federal government does occasionally appropriate money to

[79] Center on Budget and Policy Priorities. "Policy Basics: Housing." CBPP, November 15, 2017.
[80] Ibid.
[81] Schill, Michael H. "Distressed public housing: where do we go from here?." The University of Chicago Law Review 60, no. 2 (1993): 497-501.

renovate existing public housing properties, since the mid-1990s there has been a moratorium on building additional public housing.[82]

**A Brief History**

The actual construction of federal public housing in the United States first began in the depression era with a mission to both provide housing to poor families who lacked a residence. It was created to be another federally funded public works construction project, part of President Franklin D. Roosevelt's New Deal efforts to create jobs and fuel macro-economic growth. In 1937, Congress passed the first Housing Act which authorized the construction and administration of public housing. The bill created the United States Housing Authority (later superseded by the House and Home Financing Agency and eventually today's Department of Housing and Urban Development (HUD)) to lend money to state and local governments for the construction. Although federally funded, this program would be managed by local Public Housing Authorities (PHAs), of which there are over 3,000 today.[83]

The beginning of World War II forced resources to be diverted away from public housing projects, but by wartime nearly 200,000 units of public housing had already been built. These existing units housed wartime workers, and a short time after the war was over Congress passed another Housing Act, now of 1949, to restart the federal housing project. In an effort to ensure that the neediest receive housing, but that the private market for rentals was not crowded out by public housing, large policy changes ensured that only poorer citizens would be allowed residence. From 1952 to 1962, the number of families receiving income from public and private

[82] Supra., Note 79.
[83] Ibid.

assistance programs rose from 29% to 46%.[84] Additionally, this period saw the first major swing in the racial makeup of public housing, as the number of non-white families increased from 36% of tenants to 46%. This era of legal discrimination and segregation saw many white communities oppose the construction of public housing in areas near them. Even after the abolishment of segregation, a process of denying services called "redlining" combined with racism and NIMBYism to forced PHAs to build public housing in areas far away from wealthy and/or white communities.[85] This was the beginning of the widespread segregation of public housing still evident today. Through the 1950s and 1960s these trends were reinforced by the post-war housing boom, increased rates of housing ownership, and wide-spread suburbanization.[86]

Public housing rents were expected to cover the operating costs of units, but this was an impossible task. The 1969 Brooke Amendment to the National Housing Act fixed the rent that any public housing household could pay to be no higher than 25% of income (later bumped to 30%).[87] At the same time, these units were also tasked with providing housing to the poorest of families, many of whom were either single parent households or households with one or more parents unemployed. Where once public housing rents covered 95% of operating costs, by the mid-1980s, rents covered only 43% of costs. The result was that PHAs deferred maintenance for even relatively critical things.[88] Without adequate subsidies or income, properties fell into severe disrepair, and the popularly known image of public housing as a "blight" was cemented. In the decades to follow, this situation of segregated and increasingly impoverished residents,

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[84] Stoloff, Jennifer A. "A brief history of public housing." In annual meeting of the American Sociological Association, San Francisco, CA. 2004.
[85] "Redlining" is a process in which services are denied to a racial group by outlining selective geographic servicing areas or raising prices beyond what that ethnic group can pay. Banks would often avoid investment based on geographic area. Banks would often serve poor white areas, but not poor black areas.
[86] Supra., Note 84.
[87] Ibid.
[88] McCarty, Maggi. "Introduction to public housing." *In CRS Report for Congress*. vol. 41654. 2014.

inadequate funding, and increasingly decaying properties shaped the debate around the success and necessity of public housing.[89]

This was not merely an issue of funding. Housing projects drew widespread criticism for taking too long to build and for being too expensive.[90] As such, in 1973, Nixon placed a temporary halt on the construction of new housing projects until revisions of the public housing program could be considered and made. For the first time, major alternatives to publicly constructed and administered housing, such as a voucher system, gained public steam. After a trial program authorized four years earlier, The Housing and Community Development Act of 1974 created the Housing Choice Voucher Program Section 8. "Section 8," as it is commonly referred to, introduced the other rental assistance measures introduced earlier in this chapter, vouchers and project-based rental assistance. Unlike PHA-administered public housing, Section 8 housing authorizes subsidy payments to private sector run real estate in hopes that it will increase the cost effectiveness of subsidized residences and further spread out would-be public housing tenants in hopes to avoid segregation and the negative clustering effect thought to emerge from many urban high-rise style public housing complexes. Additionally, Section 8 sought to decrease the necessity for new, publicly financed construction, long a point of criticism of the original public housing program. Although new public housing was still being constructed the annual amount trickled to less than 40,000 new units per year after 1975 versus 275,000 units provided through various other Section 8 measures.[91] The 1980s saw further government withdrawal from public housing as additional measures were put in place through the Urban-Rural Recovery Act of 1983 and the Housing and Community Development Act of 1987. These

[89] Ibid.
[90] Ibid. 8-13.
[91] Ibid. 9-10.

new measures sought to solidify and expand Section 8 programs, while limiting the number of new public housing developments that could be built.[92]

The 1990s would usher in one of the most significant decades of change to public housing, and the reforms introduced in this decade would shape the current state of public housing to this day. In 1989, many of the same concerns with the physical and social well-being of public housing lingered, so Congress created a National Commission on Severely Distressed Public Housing to identify strategies for the improvement of national public housing. In 1992, the final recommendations of the Commission were released in a 200-page report finding:

"residents living in fear of crime, high unemployment and limited opportunities for employment, insufficient resources to address the needs of residents, disincentives to self-sufficiency, and housing that had deteriorated to the point that it was physically dangerous"

– (Congressional Research Services Report for congress R41654)[93]

In response to the Commission's report the Housing and Community Development Act of 1992 created the Revitalization of Severely Distressed Public Housing program or HOPE VI. This program provided major grants for the re-development and demolition of many public housing units. As of 2010, over $6.1 billion had been approved by HOPE VI for over 250 grants.[94] The program specifically tried to target the worst offenders, 86,000 units that had been listed in the 1992 Commission report as "severely distressed." These units were either demolished or modified from larger high-rise style residences into smaller, more attractive units that blend in to the surrounding city. While this program demolished some of the most notorious

[92] Ibid. 10-12.
[93] Housing and Urban Development, The Final Report of the National Commission on Severely Distressed Public Housing, Rep. No. R41654 (1992).
[94] Supra., Note 88. 39-42.

public housing projects, it remained controversial due to its high expense, questionable efficiency, and strategy of displacing residents through demolition of. Alongside HOPE VI reforms, no new additional public housing has funded and HUD instead focused on renovating and revitalizing existing public housing properties.[95]

***Insufficient Funding***

As public housing fell out of the public favor, units hurt badly for funding. The 1937 Act which had created public housing in the United States had no provision for maintenance or upgrades. Operating expenses and other necessary renovations were expected to be funded out of revenues generated by tenant's rent payments. PHAs were significantly handicapped from making large building re-investments as they were forbidden, by law, from accumulating reserves in excess of half a year's expected rent collection.[96] Still, through the 50s and 60s costs rose due to an aging capital stock and inflation. At the same time costs were rising, income sources for public housing were sinking due to new policies meant to put a cap on maximum tenant rent payment and maximum tenant income allowed. Congress passed the aforementioned Brooke Amendment in 1969, capping tenant rent contribution to be no more than 25% of family income due to tenant complaints. Around the same time, caps were placed to limit the number of "over-income" families that could live in public housing. Understandably, HUD and Congress wanted to prevent housing subsidies from going to families that could afford to pay a full rate, but these new rules meant that only the poorest families would be allowed in public housing.[97] PHAs were thus continually forced to take a smaller percentage of a shrinking pie. Later reforms increased allowed tenant contribution and later HUD subsidies made many PHAs solvent again,

[95] Ibid. 43-45.
[96] Supra., Note 81. 7-8.
[97] Supra., 88. Note 8.

but by that point many public housing complexes had fallen into severe disrepair. HOPE VI provided some additional money for necessary renovations, but even with less public housing units today, federal funding is still insufficient for complete modernizations of the nation's ageing housing stock.[98]

## The Current State of Public Housing

Although the popular image of public housing is that of a bland urban tower block high-rise like the now infamous Cabrini-Green Homes or Robert Taylor Homes in Chicago (seen in Figure 4.1 and 4.2), public housing can take many forms including low-rise buildings, scattered site properties, and even some mixed-income developments. Even in the mid-1990s, when the nation's total number of public housing units was at its highest, only roughly 27% of units were high-rises, as opposed to 32% garden apartments, 16% walk-up units, and 25% single family homes in that same year. Today, the median housing complex has 50 units, and fewer

**Figure 4.1 Cabrini-Green Homes (left) & Figure 4.2 Robert Taylor Homes (right)**

[98] In addition to tenant revenues, public housing is funded through two federal streams: the Public Housing Operating Fund, designated to assist PHAs in paying operational expenses, and the Public Housing Capital Fund, designated to fund extensive renovations of existing public housing. Each year, regular federal public housing appropriations amount to $6-$7 billion used for these two funds. Despite a stop in public housing's construction, the demand for affordable housing has not abated.

than 800 total housing complexes have 250 or more units (Figure 4.3, 4.4, and 4.5 show lower-density public housing complexes). Another popular assumption, that public housing is mostly located in urban areas, is mostly correct. About 40% of complexes are in non-urban areas

**Figure 4.3-4.5 (top to bottom) Ramona Gardens (Los Angeles, California); Hammel Houses (Queens, New York); and McDonnell Avenue Apartments (Biloxi, Mississippi)**

including 21% in rural areas and 19% in the suburbs.[99]

Today, roughly 1.1 million public housing units are still in existence, down from about 1.4 million at the peak of public housing's usage.[100] Most of the high-rise "problem complexes" which generated public housing's negative stereotypes, were transformed or demolished and their residents relocated.[101] Although the Congress's mentioned National Commission on Severely Distressed Public Housing found that some public housing was on the brink of unlivable, this extreme is limited to units HUD has designated as severely distressed, meaning that the complex is dilapidated, with high vacancies, backlogged repairs, rodent and cockroach infestations, and high risk for disease. Additionally, many substandard units may approach these conditions, but as a percentage of total housing stock, the number of these units are small.[102] Severely distressed units account for around 7% of total housing stock, with another 8% designated "substandard."[103] Overall, public housing still appears desirable to many, as PHAs have long or closed waitlists, and American Housing Survey data actually reveals that nationwide, public housing residents report higher levels of housing satisfaction than do unassisted low-income renters.[104] In New York, the city with the highest number of public housing units, around 66% of residents in conventional public housing report that they are satisfied with it. This is lower than for voucher holders (voucher holders reported around 80%

[99] Facts from Supra., Note 88. Pictures for 4.1-4.5 from the Council of Large Public Housing Authorities website
[100] Ibid. (Note 88)
[101] This is not meant to equate "high rise" with distressed public housing. Although generally the most distressed complexes were high rises, there were many other low-rise or single family unit complexes which became severely distressed.
[102] Turner, Margery Austin, Susan J. Popkin, G. Thomas Kingsley, and Deborah Kaye. "Distressed Public Housing: What It Costs to Do Nothing." Washington DC: The Urban Institute (2005).
[103] Council of Large Public Housing Authorities. " Facts about Public Housing." CLPHA, 2009.
[104] US Department of Housing and Urban Development, Mark Shroder, and Michelle Matuga. "American Housing Survey: Volume 14, Number 1." Table. Cityscape.

satisfaction), but still not exceptionally bad.[105] Lastly, most public housing units are old, with the current average age of units being around 30 years old. Troublingly, this is about the length of useful life for most housing of this type, so an increasing number of public housing units may be expected to fall into disrepair as the costs and challenges of keeping up with aging buildings mount[106].

Residents come from a wide spectrum of ages and family situations, as there are no legal restrictions limiting housing properties to certain family sizes and ages. To qualify for most public rental assistance programs, including public housing, households must be "low income," meaning that household income may not exceed 80% of the local median income. Additionally, by law at least 40% of new families entering public housing must be "extremely low-income," meaning that their income is no greater than the higher of the poverty line or 30% of the local median. Public Housing Authorities, in practice, often exceed this percentage of tenants in extremely low-income by a wide margin due to public housing's high demand.[107] Typically, today's tenants pay 30% of their post-deduction income to the PHA for rent and utilities. This number is federally regulated and largely inflexible. Looking at resident demographics as a percentage of total public housing residents, elderly households make up about 30% of public housing, disabled households about 21%, non-elderly/non-disabled households with children make up bout 35%, and non-elderly/non-disabled households without children are only 14%. Of households with children around 75% are female-headed, mostly single parent, households.

[105] Bloom, Nicholas Dagen, Fritz Umbach, and Lawrence J. Vale, eds. Public housing myths: Perception, reality, and social policy. *Cornell University Press*, 2015. 108-110.
[106] Supra., Note 103.
[107] Supra, Note 79.

Racially, about 45% of public housing residents are Black, 21% Hispanic, and 32% White (non-Hispanic).[108] Mean income sits at only $14,642 per household.[109]

**Conclusion**

Overall, what are we to make of public housing? While the program had its share of high-profile disasters, which doubtlessly made residents worse off, on the whole, public housing units have served many residents well. Clearly the popular vison of the program as wholly an abject failure is over-simplistic. There is a high degree of variation between these different outcomes, and due to so many confounding variables, it can be hard to know the cause of this. One things that is clear, the need for affordable housing, especially in America's largest cities, has not abated. According to the Joint Center for Housing Studies at Harvard University, the United State is home to 9.9 million low-income renters, yet at the same time there has been a shortfall of over 5 million rental units affordable to these renters.[110] Clearly, the problem of securing affordable housing has not ended; thus, despite a decline in the prominence conventional public housing, it is important to find ways to assuage the problems of public housing and similar programs in a cost effective and efficient manner. The next chapter, chapter 5, will look at current problems in public housing and discuss a framework through which to view these problems.

[108] Ibid.
[109] Supra., Note 104.
[110] Joint Center for Housing Studies at Harvard University. *The State of the Nation's Housing*. 2017.

# CHAPTER 5:

# PROBLEMS IN PUBLIC HOUSING

In looking at what the problems with public housing are, it is important to consider what we expect to get out of the system. In the broadest of interpretations, there are many known economic "problems" with public housing. For instance, because public housing allows tenants to pay rent rates that are lower than market rate, it will require subsidies to make up the gap between rent revenues and construction, operation, and maintenance costs. This alone is a problem, but it is innate to the design of public housing and expected. Because public housing's purpose is to provide housing to those with a household income that is 80% or below the median rate, it expectedly follows that public housing units will experience higher rates of poverty and likely higher rates of the negative effects which are shown to correlate with higher rates of poverty. This chapter will discuss current problems in public housing and how concentrated poverty, as appears in public housing, has been shown to worsen outcomes through a phenomenon called "neighborhood effects." This definition of the problem may appear obvious and inconsequential, but it is imperative to clarify because it changes how policymakers are supposed to view and assess public housing. Note that although this paper talks generally about these problems found in public housing, as the last chapter (Chapter 4) demonstrated, there is a wide degree of variation within public housing from complex to complex and city to city. Readers must keep this in mind since some of these problems, crime for instance, may not particularly be a problem in some areas, even if it is a problem overall in most of public housing.

It is important to differentiate between the problems *of* public housing and the problems *seen in* public housing. Figure 5.1 portrays the difference by mapping out the connections between the two. Essentially this mapping shows that a number of different factors contribute to

the problems *seen in* public housing, and while some of those are problems *of* public housing itself, some, specifically the mal-effects of poverty and an innate scarcity of resources due to rent controls and limited government funding, are not. This figure will serve as a reference to discuss this chapter's content, and help frame the next chapter on behavioral problems in public housing. It is important to reinforce that while figure 5.1 is useful for

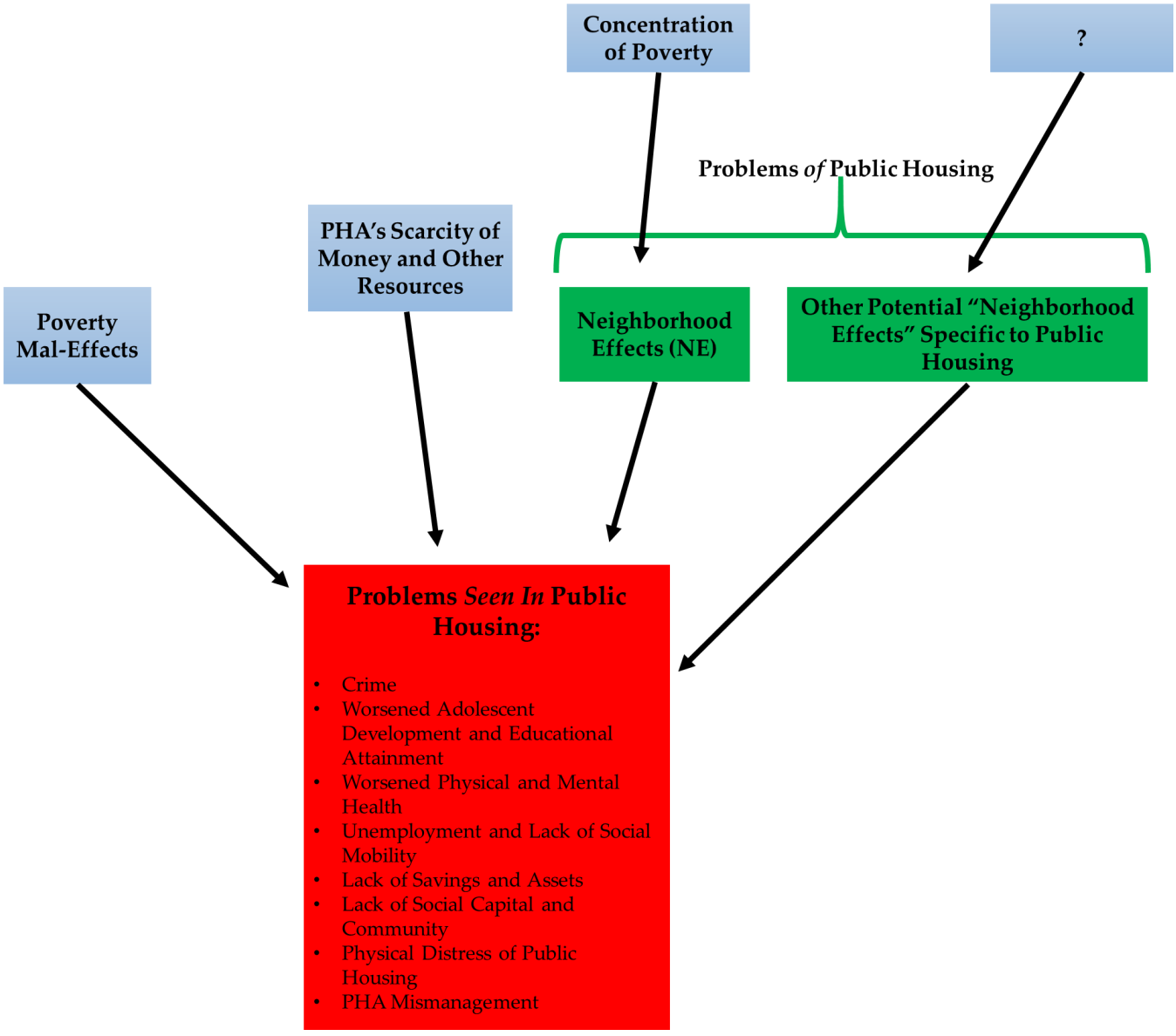


**Figure 5.1 Visualization of the Problems in Public Housing**

visualizing connections between the various effects in public housing, it should not be taken as rigorously and clearly as, say, an equation is. The causal factors as outlined in this figure, as will further be discussed, are often poorly understood and unable to be separated from one another for purposes of understanding the magnitude of each contributing factor.[111] Resultantly, a clear linkage between cause and effect is difficult to establish. For example, it is largely impossible to say whether low levels of educational attainment are generally present in public housing complexes due to poverty or due to certain other neighborhood effects. Even if connections as those given in this example could be made, they will not likely hold up across the whole population of public housing units. This latter point touches on the important fact that problems in public housing are highly variable from complex to complex. The severity of problems seen in one area, for example, may not correlate linearly or consistently with the level of poverty in that area. Many other unknown factors may be contributing. Again, the results are not as clear cut as those in an equation. Finally, causality can be confusing to establish in this figure because some of the problems seen in public housing may be feeding into others. There are several vicious cycles like this at play within the figure. Mismanagement by public housing authorities, for example, can be seen as both a problem *seen in* public housing and potentially a problem *of* public housing. Unemployment is also a problem seen in public housing, but it is also a contributor to poverty and poverty's subsequent mal-effects. Fortunately, while it is helpful to speculate at the cause of problems seen in public housing, a full understanding of the causes of these problems is not necessary for the purposes of this paper. The next chapter focuses only on likely "irrational" behavior-related causes of the problems in public housing, so an accurate mapping in figure 5.1 becomes less of an immediate consideration. Due to the uncertainty of

[111] Galster, George C. "The mechanism (s) of neighbourhood effects: Theory, evidence, and policy implications." In *Neighbourhood effects research: New perspectives*, pp. 23-56. Springer Netherlands, 2012.

causality, there remain significant controversies about the cause of and solutions to problems in public housing.[112] This paper will mention a few of these controversies, while ultimately remaining able to side-step them in proceeding to chapters 6 and 7, since these chapter focus only on finding and countering irrational behaviors within public housing, not on wholesale reform.

This paper inevitably confronts two different main ways from which to look at the problems of public housing. The first perspective asserts that the negative effects *seen in* public housing (figure 5.1's red box) are merely there because of the high levels of poverty and since poverty, regardless of where one lives, is correlated with these negative factors, then public housing units appear to have worse outcomes. This view assumes that public housing is a neutral force. Public housing tenants should fare about the same as a control group with similar characteristics and incomes.[113] The second perspective asserts that public housing worsens the negative effects or creates new problems that makes life worse than would be expected at a given level of poverty. In this view, public housing is a negative force, which hurts residents.[114]

Because of the number of confounding factors and a wide variety of public housing in terms of unit types and quality, it is difficult to ascertain which perspective is correct. Both of these stances seem held more out of ideology than out of any weight of compelling fact. If the

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[112] Ibid.

[113] This control group would need to be "rent adjusted" to compensate for the fact that public housing residents have an advantage in that they pay lower rents. The control group would need to have the same after-rent income as public housing tenants. Thus, in a "public housing is neutral" view, the only goal of public housing is to provide low-income tenants the ability to live in a certain area (due to proximity of work and services, desire to diversify, historical presence, etc.) while paying lower than market rent.

[114] In both of these views, public housing is meant only to provide housing in a certain location and not any other kind of positive externalities such as a helpful social solidarity structure or increased access to opportunities. Alternative views that public housing can or should provide some kind of additional positive benefits to its residents and/or community are still relevant, but would set a higher bar than these perspectives are looking for. This viewpoint would reflect the hopes of early 1930s and 1940s modernist planners who first pitched the possibility of public housing. See: Supra., Note 105.

first viewpoint is right, only poverty and the innate scarcity of resources in public housing would be contributors to problems seen in public housing. If the second viewpoint is right, public housing itself is the source of additional problems, and someone equally poor would be better off without public housing due to the problems it creates. While the second viewpoint may go too far in stressing the negative effects of public housing, there does seem to be some credibility to the underlying argument that something about public housing is sometimes worsening observed effects. This something is negative "neighborhood effects" (the leftmost of figure 5.1's two green boxes), a broad term used to describe the idea that neighborhoods have either a direct or indirect effect of its resident's behaviors.[115] Here concentrated poverty leads to negative neighborhood effects. It is still the mal-effects of poverty which cause problems seen in public housing, but this extreme concentration of these mal-effects creates a worse environment which hampers the outcomes of those in public housing. In this view public housing is bad only so much as it concentrates poverty. As figure 5.1 shows, it is still possible that there are other problems *of* public housing which arise from factors other than concentrated poverty, but it is unclear if these effects exist and if they do, what the cause of them is (this is represented by the top right-most blue box with a question mark). If these effects do exist, they would exert some kind of additional "penalty" on residents just because these residents live in public housing (controlling for both poverty and concentration of poverty). Since these effects are uncertain, the box marking this effect has simply been marked with a question mark. Ultimately, whether problems *of* public housing exist or not, the behavioral interventions written in Chapter 7 will still hold valid as potential effective interventions.

[115] Supra., Note 111. 1-2.

Although the particular concern of housing policymakers ought to be on these effects *of* public housing (figure 5.1's green boxes) since these effects are the most relevant to consider in future housing policy decisions, it is still important to look at the problems *seen in* public housing effects as a whole. For the purposes of this paper, even if public housing residents are at the same level for negative outcomes due to poverty, these negative outcomes are still just as concerning. Fighting the exacerbated effects (the effects *of* public housing) as opposed to negative effects associated with a certain level of poverty is analogous to fighting the negative consequences of a particular policy versus fighting poverty as a whole. Both are important, but one is more realistic in its scope. Since public housing provides for a population with high concentrated poverty, behavioral interventions ought to focus on fighting both problems when possible.

As mentioned in the previous chapters, historical changes in tenant demographics have occurred, and public housing has gone from housing residents of many different income levels and races, to now housing mostly the poorest of the poor from almost exclusively minority backgrounds. Today half of HUD Public Housing residents earn less than 25% of area median income.[116] Public housing did not cause intense poverty, but there is evidence to show that public housing is, in some instances, exacerbating it and at the very least not delivering on promises of neighborhood quality (Newman & Schnare, 1997; Dillman, Horn, & Verrilli 2017).[117]

[116] Supra., Note 104.
[117] Newman, Sandra J., and Ann B. Schnare. "'… And a suitable living environment': The failure of housing programs to deliver on neighborhood quality." *Housing Policy Debate* 8, no. 4 (1997): 703-741., and Dillman, Keri-Nicole, Keren Mertens Horn, and Ann Verrilli. "The what, where, and when of place-based housing policy's neighborhood effects." *Housing Policy Debate* 27, no. 2 (2017): 282-305.

Despite America's ethos of opportunity, prosperity, and social mobility, more than 16 million children live below the poverty line.[118] Circumstances at birth, sadly, will have a decisive impact on the trajectory of these children, as 6 in 10 born in the lowest income quintile will never escape from it.[119] Poverty is not just about having less money; it correlated with a number of quality of life measures. As mentioned, there remains significant controversy around public housing's effectiveness and potential downsides, but that these negative effects (the problems *seen in* public housing) correlate with poverty is well accepted (Chetty, Hendren, & Katz, 2016; Ellen & Turner, 1997; Leventhal & Brooks-Gunn, 2000).[120] In this way, the biggest overall problem with public housing is that it creates negative neighborhood effects and a clustering of negative effects through the concentration of poverty.[121] This paper will also confront this issue so much as this concentration of poverty feeds into the creation of negative neighborhood effects. While the existence of neighborhood effects remains controversial (see: Goetz & Chapple, 2010), there is recent compelling evidence in support of it, and even without negative neighborhood effects, public housing still provides an effective venue through which to combat the negative effects of poverty through behavioral interventions.[122]

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[118] Brooks-Gunn, Jeanne, and Greg J. Duncan. "The effects of poverty on children." *The future of children* (1997): 55-71.

[119] Isaacs, Julia, and Isabel Sawhill. "Reaching for the prize: The limits on economic mobility." *The Milken Institute Review* (2008): 18-27.

[120] Chetty, Raj, Nathaniel Hendren, and Lawrence F. Katz. "The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment." *The American Economic Review* 106, no. 4 (2016): 855-902.; Ellen, Ingrid Gould, and Margery Austin Turner. "Does neighborhood matter? Assessing recent evidence." *Housing policy debate* 8, no. 4 (1997): 833-866.; and Leventhal, Tama, and Jeanne Brooks-Gunn. "The neighborhoods they live in: the effects of neighborhood residence on child and adolescent outcomes." *Psychological bulletin* 126, no. 2 (2000): 309.

[121] It is uncontroversial that traditional public housing concentrates poverty; this is, by definition, a part of the program.

[122] Goetz, Edward G., and Karen Chapple. "You gotta move: Advancing the debate on the record of dispersal." *Housing Policy Debate* 20, no. 2 (2010): 209-236.

## Problems *of* Public Housing

### *Neighborhood Effects*

A *neighborhood*, as defined by Chaskin (1997), defines the "spatial construction… in which residents share proximity and circumstances that come with it." The neighborhood is different than, but obviously always interacting with, the *community*, which Chaskin defines broadly as the sum of "all connections, of a social, functional, cultural, economic, or of any other nature".[123] Social scientists agree that exposure to disadvantaged neighborhoods has negative consequences for outcomes and is a critical factor in perpetuating intergenerational poverty (Ludwig et al., 2013; Massey, 2013; Sampson, 2012; Sharkey, 2013).[124] The idea that the zip code one is born into determines one's outcomes as an adult runs fundamentally counter to the American ethos of social mobility, yet, according to the model estimates of researchers, "the expected lifetime income for people born into the bottom quartile of the neighborhood income distribution would be $910,000 greater if they were instead raised in a top-quartile neighborhood, controlling for regional differences in purchasing power" (Chetty, Hendren, Kline, & Saezet, 2014; Rothwell & Massey, 2015).[125]

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[123] Chaskin, Robert J. "Perspectives on neighborhood and community: a review of the literature." *Social Service Review* 71, no. 4 (1997): 521-547.

[124] Ludwig, Jens, Greg J. Duncan, Lisa A. Gennetian, Lawrence F. Katz, Ronald C. Kessler, Jeffrey R. Kling, and Lisa Sanbonmatsu. "Long-term neighborhood effects on low-income families: Evidence from Moving to Opportunity." *The American Economic Review* 103, no. 3 (2013): 226-231.; Massey, Douglas S. "Inheritance of poverty or inheritance of place? The emerging consensus on neighborhoods and stratification." (2013): 690-695.; Sampson, Robert J. Great American city: Chicago and the enduring neighborhood effect. *University of Chicago Press*, 2012.; and Sharkey, Patrick, and Jacob W. Faber. "Where, when, why, and for whom do residential contexts matter? Moving away from the dichotomous understanding of neighborhood effects." *Annual Review of Sociology* 40 (2014): 559-579.

[125] Chetty, Raj, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez. "Where is the land of opportunity? The geography of intergenerational mobility in the United States." *The Quarterly Journal of Economics* 129, no. 4 (2014): 1553-1623. and Rothwell, Jonathan, and Douglas Massey. "Geographic effects on intergenerational income mobility." *Economic Geography* 91, no. 1 (2015): 83-106.

As mentioned, many different detrimental effects—crime, social immobility, poor health, and more—have a high association with poverty. Furthermore, a large body of literature shows that concentrated poverty places burdens on poor families "beyond what the families own individual circumstances would dictate".[126] In other words, concentrations of poverty can worsen these effects such that public housing projects, for example, with high poverty concentrations will make such detrimental effects even worse than what would normally be expected at a specific level of poverty. Continual exposure to these detrimental effects of poverty and negative neighborhood effects has been identified as a major contributor to racial stratification in the United States.[127]

Still, observed outcomes are difficult to understand, and the mechanism by which neighborhood effects shape these outcomes are even harder to fully understand. Brookings Senior Fellow Alan Berube gives the example of looking at the limited academic achievement of teenage youth in areas of concentrated poverty to illustrate this point, "Is [it]… the result of his family being poor, the result of being in a classroom where the majority of his classmates are also poor, or the result of limited academic achievement among his peers, regardless of their socioeconomic status?".[128] Even understanding why people stay in areas that seem to be so harmful is difficult. Are specific poor families "trapped" in areas of concentrated poverty, or do they remain there by choice due to available affordable housing, social networks, or some other cultural or economic factor? Anecdotal evidence and research lends credence to both of these

[126] Erickson, David, Carolina Reid, Lisa Nelson, Anne O'Shaughnessy, and Alan Berube. "The Enduring Challenge of Concentrated Poverty in America: Case Studies from Communities Across the US." Federal Reserve System (2008).
[127] Massey, Doreen. "Geographies of responsibility." Geografiska Annaler: Series B, Human *Geography* 86, no. 1 (2004): 5-18.
[128] Supra., Note 126. 11-12.

hypotheses.[129] While significant research effort has been expended to find and quantify the relationship between neighborhoods and outcomes, comparatively less has been put into discovering the potential underlying causes mechanisms of these effects. Looking at figure 5.1, this means that while neighborhood effects of some forms are well-established, their connection to the problems seen in public housing, the arrow, is relatively uncertain. Even research that has looked at causality, has been far from conclusive in determining which of several hypothesized mechanisms are most robust.[130] Causality will be reexamined in the next chapter on potential behavioral causes of problems seen in public housing. For a full discussion and literature review of hypothesized causal mechanisms see George Galster's 2010, *The Mechanisms of Neighborhood Effects: Theory, Evidence, and Policy Implications*.[131]

*Concentration of Poverty and Segregation*

One of the largest trends that Section 8 Housing, a subsidy voucher program, was meant to correct was the significant concentration of poverty and de facto segregation caused by public housing. Public housing, in its current form in the United States, clusters together many people with abnormally low incomes and low rates of employment. Public housing was predominantly constructed in already poor Black and Hispanic neighborhoods, further increasing the concentration of poverty and segregation.[132] It is well established that high rates of minority

[129] Vale, Lawrence J. "Public housing and the American dream: Residents' views on buying into "the projects"." *Housing Policy Debate* 9, no. 2 (1998): 267-298.
[130] Supra., Note 111.
[131] Ibid.
[132] Supra., Note 88.

poverty and continual segregation will produce a high degree of concentrated minority poverty (Massey & Denton, 1993; Massey & Fischer, 2000).[133]

The issue of concentrated poverty became such a concern that in the 1970s the US Census Bureau even created a measure to officially designate concentrated poverty zones. Census tracts with 20-39% of residents falling below the poverty line are designated "poverty" zones, and tracts with 40% or more residents falling below the poverty line are considered "high poverty" (sometimes called "extreme poverty") zones.[134] While all ill effect of poverty are troubling, the primary concern in looking at neighborhood effects is separating the "normal" association between poverty and these effects from the "interaction" effects that come from concentrated poverty. It is these interaction effects that are of real interest because it is these effects that public housing, by concentrating poverty, is potentially contributing to.

From 2000 to 2015, concentrated poverty was on the rise; the number of poor in high-poverty neighborhoods has nearly doubled from 7.2 million to 13.8 million, the highest number ever recorded.[135] High-poverty cities were a major concern in the 1960s-1980s, but the 1990s bought a favorable economy, nationwide low unemployment and policy changes that favored the poor such as the earned income tax credit and an increased minimum wage.[136] High-level concentrated poverty had dropped by over a quarter from 9.6 million to 7.2 million, but after 2000 a reconcentration of poverty has occurred.[137] Even without a change in the macro-level

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[133] Massey, Douglas S., and Nancy A. Denton. American apartheid: Segregation and the making of the underclass. *Harvard University Press*, 1993. and Massey, Douglas S., and Mary J. Fischer. "How segregation concentrates poverty." *Ethnic and racial studies* 23, no. 4 (2000): 670-691.
[134] Supra., Note 88.
[135] Jargowsky, Paul. "The architecture of segregation." New York: The Century Foundation (2015).
[136] Ibid.
[137] Ibid. 6-11. Interestingly, unlike in earlier decades the largest reconcentration of poverty has not been in the largest cities like New York and Chicago, but rather in mid-sized cities (population 500,000 to 1,000,000) like Syracuse, NY; Dayton, Ohio; and Gary, Indiana.

poverty rate, there has been a change in where the poor reside.[138] These increases were underway even before the great recession, although the recession certainly worsened the effects.[139]

Again, public housing alone certainly did not create this problem. The cause of poverty concentration varies greatly between localities. Secular economic change such as American de-industrialization, especially in the Northeast and Midwestern cities, left these cities poorer.[140] Less skilled workers in these urban areas were especially hard hit.[141] As major cities in this area declined, middle-class families left in droves to instead live in suburban areas. Formerly it was white families in an era of legally enforced segregation, who were engaged in so-called "white-flight" in the 1950s and 1960s, but after the end of legal segregation, middle-class minority families also left for the suburbs around 1970-2000.[142] While legal and de-facto housing market discrimination also may have contributed to more recent segregation, legalized discriminatory policies such as the aforementioned "redlining," the denying of services to certain racial or ethnic groups based on location, have an ugly legacy of creating a significant portion of initial segregation in the United States.[143] Family structures weakened, and, for a variety of reasons, by 1990 64% of black infants and 18% of white infants were born to unmarried mothers.[144] A high

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[138] Jargowsky, Paul. "Stunning progress, hidden problems." Washington: Brookings institution (2003).
[139] Supra., Note 135. 3-6.
[140] Kasarda, John D. "Urban industrial transition and the underclass." *The Annals of the American Academy of Political and Social Science* 501, no. 1 (1989): 26-47.
[141] Hughes, Mark Alan. "Misspeaking truth to power: A geographical perspective on the "underclass" fallacy." *Economic Geography* 65, no. 3 (1989): 187-207.
[142] Wilson, William Julius. The truly disadvantaged: The inner city, the underclass, and public policy. *University of Chicago Press*, 2012.
[143] Yinger, John. Closed doors, opportunities lost: The continuing costs of housing discrimination. Russell Sage Foundation, 1995.
[144] Akerlof, George A., Janet L. Yellen, and Michael L. Katz. "An analysis of out-of-wedlock childbearing in the United States." *The Quarterly Journal of Economics* 111, no. 2 (1996): 277-317.

number of these infants were raised by single mothers, which research consistently indicates means children are more likely to grow up poor because of their parent's low earnings.[145]

Lower prices and a strong sense of NIMBYism in middle and upper income neighborhoods forced urban public housing units to be built in already poor, minority neighborhoods which often lacked access to good transportation and jobs.[146] Additionally, public housing works by intentionally grouping many of the poorest of the poor together. About 16% of public housing units are located in census tracts in which over 50% of housing units in said tract are public, and about 40% of all units are located in census tracts in which over 20% of housing units in said tract are public.[147] With the mean income for a public housing household sitting at about $14,642 (64% of households below 30% median income and an additional 21% of households below 50% of median income), public housing, by design, in the way that it has been implemented in the United States almost inevitably increases concentrated poverty.[148] Roughly 37% of public housing units are located in "extreme poverty" census tracts (at least 40% of the population is below the poverty line).[149] Families in public housing are much more likely to be in distressed neighborhoods, whereas public housing primarily for the elderly and disabled was more likely to be in lower poverty areas.[150] Only 7.5% of all public housing units were in census tracts with poverty below 10%.[151] Because of this, residents in public housing are more likely to be in an area of concentrated poverty than someone of equivalent poverty not in public housing.

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[145] Mincy, Ronald B., ed. *Black males left behind*. The Urban Institute, 2006.
[146] Bickford, Adam, and Douglas S. Massey. "Segregation in the second ghetto: Racial and ethnic segregation in American public housing, 1977." *Social Forces* 69, no. 4 (1991): 1011-1036.
[147] Supra., Note 88.
[148] Supra., Note 104.
[149] Council of Large Public Housing Authorities. Assessing the Economic Benefits of Public Housing: Final Report. By Econsult Corporation. January 2007.
[150] Supra., Note 117.
[151] Ibid. 10.

In public housing, more 40% of children live in areas of "extreme poverty," whereas nationally only 15% of children nationwide who are considered poor are in areas of "extreme poverty."[152] That number rises to 23.3% of black children and 20.7% of Hispanic children when looking at specific minority groups, but it is still lower than public housing's rate of children living in areas of concentrated poverty. Children who live in a family receiving Housing Choice Vouchers (Section 8) are also still poor, but they are much less likely to live in tracts of "extreme poverty," with only 12.1% of black children and 13% of poor Hispanic children living in these environments.[153] A report by the Metropolitan Policy Program at the Brookings Institution and the Community Affairs Offices of the Federal Reserve provides case studies of some of the most endemic cases of concentrated poverty, and shows that while impoverished areas across the US may have varied causes and occur in varied geographic locations, the negative results that come from clustered poverty are much the same.[154] In light of the negative neighborhood effects of concentrated poverty, policymakers must consider the serious downsides that public housing may bring, just by contributing to this concentration of poverty.

*Observation of Neighborhood Effects*

Much of the evidence that has been gathered about the negative neighborhood effects of concentrated poverty has come out of the study of specific housing policy changes. These policy changes have provided researchers with the rare opportunity to run experiments on such a large scale. The following three policy changes (Gautreaux, HOPE VI, and Moving to Opportunity) all involve residents moving from locations with highly-concentrated poverty to locations with less-

[152] Center on Budget and Policy Priorities. Creating Opportunity for Children: How Housing Location Can Make a Differnce. By Barbara Sard and Douglas Rice. October 14, 2014.
[153] Center on Budget and Policy Priorities. What Housing Vouchers Mean to Poor Minority Families, Part 2: Help in Avoiding Extreme-Poverty Neighborhoods. By Barbara Sard. October 20, 2014.
[154] Supra., Note 126.

concentrated poverty. All three have been intensely studied to try to understand the comprehensive effects of relocation as a way to mitigate the negative effects of neighborhood effects and poverty. In place of a complex understanding of the causal mechanisms behind neighborhood effects, these policy changes can show whether neighborhoods themselves appear to be what is affecting people. While hundreds of studies have verified that outcomes vary by neighborhood, the results of studying these experimental set ups are critical in confirming that it is something about neighborhoods themselves that are causing failure or success.

The first policy change came through the so-called "Gautreaux" program. In 1966, black tenants in Chicago public housing brought several lawsuits against HUD and Chicago's PHA alleging that the housing authorities had deliberately kept minorities from white neighborhoods by placing them in specific, substandard, highly segregated public housing sites. By 1976, the case had made it all the way to the supreme Court and the court ruled in *Hills v. Gautreaux* in favor of the plaintiffs. In response, many Chicago public housing families were given housing vouchers, with some choosing to move and others choosing to stay. This program, later called Gautreaux I to distinguish it from a few, smaller programs that mimicked its original design, provided one of the only social programs in the US that was based on a randomized quasi-experiment. Plenty of research has looked at Gautreaux I. Initial results have shown that Gautreaux had indeed done its job of allowing families to move to less impoverished areas, with average neighborhood poverty rates for residents declining from an average of 40% impoverished to only 17%. More importantly, this trend appears to be persistent as over two decades after the initial movement parents and adult children have remained in neighborhoods at or near the same low poverty levels as the ones they were located into (DeLuca & Rosenbaum,

2003; Keels et al., 2005).[155] Results from Gautreaux were seen to be overall positive, although short of some of the drastic changes reformers had hoped for.

Last chapter briefly covered the federal HOPE VI program, which has provided money to renovate or destroy "severely distressed" public housing developments. Renovations and renovations tapped into the philosophies of new urbanism and Oscar Newman's defensible space theory, and sought to build single-family units rather than rebuild the high-rise style apartments which had gained national notoriety. Sometimes, in lieu of new developments, voucher systems were put in place to simply relocate families to privately owned residences of their choice with the goal of increasing resident self-sufficiency and improving neighborhood conditions of residents.[156]

The program has been found to have a mixed effectiveness overall with a wide variation of results across the program's many projects. Optimistically, the program has been shown to decrease violent crime, increase property values, and decrease concentrated poverty (Popkin et al., 2004; Popkin, 2010; Aliprantis & Hartley, 2015).[157] Unfortunately, some research has found that the use of Section 8 vouchers has done little to increase the economic outcomes of residents, sometimes not even moving them to neighborhoods that were much better off economically

[155] DeLuca, Stefanie, and James E. Rosenbaum. "If low-income blacks are given a chance to live in white neighborhoods, will they stay? Examining mobility patterns in a quasi-experimental program with administrative data." *Housing Policy Debate* 14, no. 3 (2003): 305-345. and DeLuca, Stefanie, Greg J. Duncan, Micere Keels, and Ruby M. Mendenhall. "Gautreaux mothers and their children: An update." *Housing Policy Debate* 20, no. 1 (2010): 7-25.
[156] Supra., Note 105.
[157] Popkin, Susan J., Diane K. Levy, Laura E. Harris, Jennifer Comey, Mary K. Cunningham, and Larry F. Buron. "The HOPE VI program: What about the residents?." *Housing Policy Debate* 15, no. 2 (2004): 385-414.; Popkin, Susan J., Larry F. Buron, Diane K. Levy, and Mary K. Cunningham. "The Gautreaux Legacy: What Might Mixed-Income and Dispersal Strategies Mean for the Poorest Public Housing Tenants?." *Housing Policy Debate* 11, no. 4 (2000): 911-942.; Aliprantis, Dionissi, and Daniel Hartley. "Blowing it up and knocking it down: The local and city-wide effects of demolishing high concentration public housing on crime." *Journal of Urban Economics* 88 (2015): 67-81.

(Clampet-Lundquist, 2004; Curley 2010).[158] Additionally, many voucher movers can find it difficult to re-establish ties in new neighborhoods, especially if those neighborhoods are mixed income and mixed race. For some individuals, the disruption of the move seemed to break whatever loosely-held grasp on stability had been achieved, outweighing the positive effects of the move (Popkin, 2010; Chaskin, Khare, & Joseph, 2012; Tach, 2009). Overall HOPE VI has certainly helped deconcentrate poverty, but other problems, such as a lack of alternative affordable housing, may keep former residents from accessing better neighborhoods or reduce the positive neighborhood effects potentially reaped from better neighborhoods.[159]

Based partially on the evidence from Gautreaux I, the federal Moving to Opportunity (MTO) program was created by HUD in the Clinton era as a more rigorous randomized control trial to test if moving people to better neighborhoods could alleviate poverty and cause better life outcomes. Between 1994 and 1998, across Baltimore, Boston, New York, Chicago, and Los Angeles 4,600 low-income families with children were assigned by lottery into three groups: a control group which will stay in public housing, a regular-voucher group which received regular housing vouchers, and a "low-poverty" voucher group which allowed usage of the voucher only in neighborhoods with a poverty rate of 10% or less. For a while this MTO seemed to generate mixed results. The families that moved displayed no greater gains of employment, earning, nor improved test scores for the children of mover families when compared to the control group

[158] Clampet-Lundquist, Susan. "HOPE VI relocation: Moving to new neighborhoods and building new ties." *Housing policy debate* 15, no. 2 (2004): 415-447. and Curley, Alexandra M. "Relocating the poor: Social capital and neighborhood resources." *Journal of urban affairs* 32, no. 1 (2010): 79-103.

[159] Supra., Note 157.; Chaskin, Robert, Amy Khare, and Mark Joseph. "Participation, deliberation, and decision making: The dynamics of inclusion and exclusion in mixed-income developments." *Urban Affairs Review* 48, no. 6 (2012): 863-906.; and Tach, Laura M. "More than Bricks and Mortar: Neighborhood Frames, Social Processes, and the Mixed-Income Redevelopment of a Public Housing Project." *City & Community* 8, no. 3 (2009): 269-299.

(Kling, Liebman, & Katz 2007; Oreopoulous, 2003; Sanbonmatsu et al., 2011).[160] There were some smaller offsets to crime among these families, but these mixed results led to significant debate among experts about the effectiveness moving can have on the impoverished families, until very recently.

Despite decades of research, only within the past three years have the most compelling results about the effects of neighborhoods been found. New studies put out by economists Raj Chetty and Nathaniel Hendren have leveraged new data to make the most compelling argument yet that neighborhoods do matter and that moving individuals from bad neighborhoods to good ones can have positive impacts (Chetty, Hendren, & Katz, 2016; Chetty & Hendren, 2015).[161] Returning to the MTO data and combining it with tax returns for the children of MTO participants, the researchers were able to find that the children of families in the MTO treatment group had significantly better outcomes into adulthood than did the control group (see figure 5.2). This data does not contradict earlier finding, it was simply not in existence to earlier researchers; the children of the MTO experiment had yet to age enough to be studied. Improvements in outcomes were found in the children of the moving household, not in the adults of the household. Earning improved so much so that the net present value of increased lifetime earning of children who move at age 8 was around $100,000. Additionally, children who moved young were more likely to attend college, more likely to be married, less likely to live in a high-poverty area, and less likely to have out of wedlock children. These findings were dubbed

[160] Kling, Jeffrey R., Jeffrey B. Liebman, and Lawrence F. Katz. "Experimental analysis of neighborhood effects." *Econometrica* 75, no. 1 (2007): 83-119.; Oreopoulos, Philip. "The long-run consequences of living in a poor neighborhood." *The quarterly journal of economics* 118, no. 4 (2003): 1533-1575.; and Sanbonmatsu, Lisa, Lawrence F. Katz, Jens Ludwig, Lisa A. Gennetian, Greg J. Duncan, Ronald C. Kessler, Emma K. Adam, Thomas McDade, and Stacy T. Lindau. "Moving to opportunity for fair housing demonstration program: Final impacts evaluation." (2011).

[161] Supra., Note 120. and Chetty, Raj, and Nathaniel Hendren. "The impacts of neighborhoods on intergenerational mobility: Childhood exposure effects and county-level estimates." *Harvard University and NBER* (2015): 1-144.

positive “childhood exposure effects”. Perhaps Chetty and his colleagues’ most significant finding was that the younger children were at the time of the move, the more they benefitted. Thus, for every additional year children spent in a low-poverty area, the better off they were, with one important caveat. If children were over 13 at the time of the move, the move actually harmed outcomes, assumedly because the of the disruption that moves can cause in the lives of children.

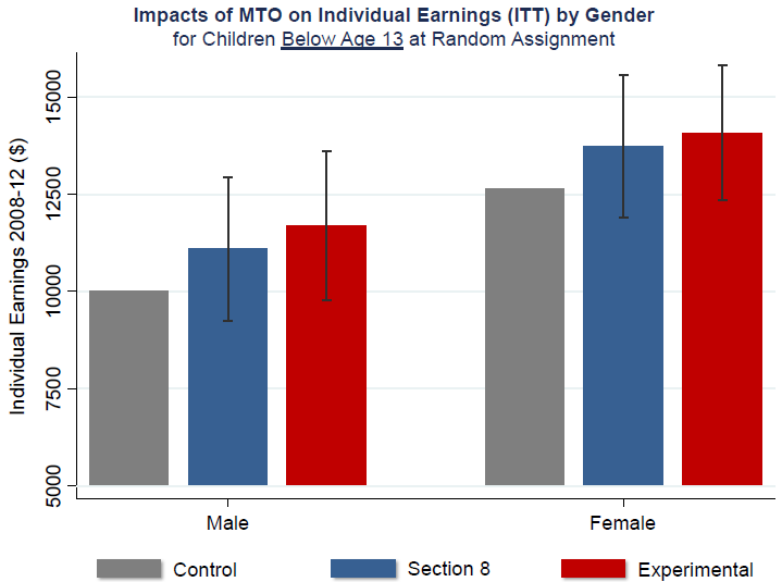


**Figure 5.2 Comparison of Earning from MTO Children**

## Major Problems Seen in Public Housing

As previously mentioned, studies of public housing residents have shown a number of problems to be afflicting these residents more than the general public: crime, worsened adolescent development and educational attainment, worsened physical and mental health, unemployment, a lack of social mobility, a lack of savings and assets, and a lack of social capital and community. These are the problems seen in public housing mentioned in the red box of figure 5.1. This is not meant to be a comprehensive listing of all problems seen in public

housing; it is merely a discussion of some of the most prevalent and written about problems. As figure 5.1 shows us, it is helpful to think of these problems *seen in* public housing as symptoms of other root problems. Poverty, a lack of PHA resources, and potentially neighborhood effects are the root problems. This chapter will close with a discussion of these symptomatic problems, before turning to try to discover some of the underlying behavioral problems that are partially responsible for how these root problems bring about these symptomatic problems.

### *Crime*

By the 1980s and 1990s, towering urban high-rise housing projects, built in this style to maximize the cost effectiveness of public housing, became popularly associated primarily with high levels of crime. Critics of this style of public housing argued that it created a high concentration of poverty, and this concentration was said to worsen overall crime. Indeed, between 1990 and 1994, PHAs spent over $4 billion on crime reduction and prevention alone, including things like additional police officers, tenant patrols, fencing, lighting, and security cameras ($500 million of this spending came from Chicago alone).[162] The most notorious high rises were subsequently demolished, just decades after their construction through HOPE VI. Although many worried these policies were merely displacing crime, rather than reducing it, subsequent studies have shown that these movements and demolitions have had a net reduction in violent crime at the city level, implying that public housing had an effect that was not additive and neighborhood effects were present (McNulty & Holloway, (2000); Aliprantis & Hartley, 2015).[163]

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[162] US Department of Housing and Urban Development. "The Impact of Gun Violence on Public Housing Communities" 1999.

[163] McNulty, Thomas L., and Steven R. Holloway. "Race, crime, and public housing in Atlanta: Testing a conditional effect hypothesis." *Social Forces* 79, no. 2 (2000): 707-729. And Supra., Note 157.

In 1997 the Chicago Public Housing Authority ran a lottery which randomly offered vouchers to 18,000 families of the 80,000 applicants. Among voucher recipients were both public housing residents and market rate housing residents. Those living in market rate residences typically didn't change their type of neighborhood (in terms of neighborhood poverty rate), so the voucher amounted to an increase in income alone. In contrast, those voucher recipients living in public housing saw the same absolute increase in income while also relocating to a new neighborhood.[164] Since the new neighborhoods the former public housing residents moved into still had a relatively high level of poverty, only limited economic benefits were seen, but benefits were seen in other areas, most noticeably in reduced violent crime. Voucher winners who were formerly public housing residents experienced a 40% drop in neighborhood poverty and, resultantly, there was a 50% drop in violent crime arrest for children ages 12-18.[165]

Before Chicago's worst housing complexes were demolished in the 1990s, these complexes had an average poverty-rate of around 77% (versus a city average of only around 20%). While 90% of residents from these public housing complexes relocated to somewhere else in Chicago, homicides were reduced across the city by 7.5%. This could be seen directly in violent crime reductions around the areas where public housing high rises used to be. Additionally, as might be expected, there was not an increase in homicides in the neighborhoods in which former public housing residents resettled. Assault and battery crimes saw similar reductions of this nature to a slightly lesser degree. [166] An additional longitudinal study across 10 different urban areas upholds the idea that voucher recipients do not cause significant new

[164] Ibid.
[165] Ibid.
[166] Ibid. and US Department of Justice, National Institute of Justice. "Drugs and Crime in Public Housing: A Three City Analysis." 1994.

numbers of crime in areas they move to, and any new numbers of crimes are more than offset by a more significant reduction in crime in old areas (Popkin, Rich, Hendey, Hayes, & Parilla, 2012; Ellen, Lens, & O'Regan, 2012).[167]

An example of how these problems seen in public housing can create vicious cycles is present for public housing crime. Research has shown that high levels crime can reduce the social cohesion and collective efficacy of neighbors (Sampson, Raudenbush, & Earls, 1997).[168] Additionally, if residents, especially women, believe their neighborhood to be unsafe, they are less likely to be physically active and less confident in their ability to maintain a healthy degree of physical exercise (Bennett, et al., 2007).[169]

### *Adolescent Development and Educational Attainment*

Poverty and growing up in poor neighborhoods can have significantly detrimental effects on children and young adults in a range of different areas. Recent work has shown that low income families experience a variety of hardships including food insecurity, health problems, violence at home, and inaccessibility to high performing schools.[170] The so called, "Coleman Report," produced by the Department of Education in 1966, linked the economic and demographic composition of a school's student body to the educational outcomes of individual students.[171] Perhaps unsurprisingly, wealthier schools showed higher educational achievement,

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[167] Popkin, Susan J., Michael J. Rich, Leah Hendey, Chris Hayes, Joe Parilla, and George Galster. "Public housing transformation and crime: Making the case for responsible relocation." *Cityscape* (2012): 137-160.
[168] Sampson, Robert J., Stephen W. Raudenbush, and Felton Earls. "Neighborhoods and violent crime: A multilevel study of collective efficacy." *Science* 277, no. 5328 (1997): 918-924.
[169] Bennett, Gary G., Lorna H. McNeill, Kathleen Y. Wolin, Dustin T. Duncan, Elaine Puleo, and Karen M. Emmons. "Safe to walk? Neighborhood safety and physical activity among public housing residents." *PLoS medicine* 4, no. 10 (2007): e306.
[170] Saporito, Salvatore, and Deenesh Sohoni. "Mapping educational inequality: Concentrations of poverty among poor and minority students in public schools." *Social Forces* 85, no. 3 (2007): 1227-1253.
[171] Coleman, James S., Ernest Campbell, Carol Hobson, James McPartland, Alexander Mood, Frederick Weinfeld, and Robert York. "The coleman report." Equality of Educational Opportunity (1966).

and additional studies since have continued to find the same result (Saporito & Sohoni, 2007; Burdick-Will et al., 2011).[172] Federal Moving to Opportunity programs shows that children who relocated to better locations saw an increase in the quality of their education, increased study hours, increased parental support for their education, and, despite more rigorous schools, no drop in grades received.[173]

Environment plays a large role in one's development into adulthood, and this is not limited just to education (Sampson, Sharkey, & Raudenbush, 2008).[174] Exposure to early neighborhood disadvantage increases the likelihood of early and unwed childbearing, poor child health outcomes, poor grades, low completion rates in high school and beyond, and joblessness and depressed earnings in young adulthood (Massey & Brodmann, 2014).[175]

***Public Health and Mental Health***

The problems of public housing are more easily visible in the physical decay of housing units or in the poverty and lack of economic advancement of housing residents, but the negative effects of public housing can even be seen in resident health outcomes. Poverty is well known to be associated with detrimental effect to health, but the exact negative health effect attributable to

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[172] Supra., Note 170. And Burdick-Will, Julia, Jens Ludwig, Stephen W. Raudenbush, Robert J. Sampson, Lisa Sanbonmatsu, and Patrick Sharkey. "Converging evidence for neighborhood effects on children's test scores: An experimental, quasi-experimental, and observational comparison." *Whither opportunity* (2011): 255-276.

[173] An enormous trove of research makes the connection between poverty and poor educational outcomes and speculates on how other factors such as family structure and parental educational attainment weighs in. For more information see the literature review of Wool, Fermanich, & Reichardt (2015). Wool, S., Fermanich, M., & Reichardt, R. (2015, June). A Review of the Literature on the Effects of Concentrations of Poverty on School Performance and School Resource Needs. Denver, CO: APA Consulting. And Ellen, Ingrid Gould, Michael C. Lens, and Katherine O'Regan. "American murder mystery revisited: do housing voucher households cause crime?." *Housing Policy Debate* 22, no. 4 (2012): 551-572.

[174] Sampson, Robert J., Patrick Sharkey, and Stephen W. Raudenbush. "Durable effects of concentrated disadvantage on verbal ability among African-American children." *Proceedings of the National Academy of Sciences* 105, no. 3 (2008): 845-852.

[175] Massey, Douglas S., and Stefanie Brodmann. *Spheres of influence: The social ecology of racial and class inequality*. Russell Sage Foundation, 2014.

public housing and the environment it creates and tends to be located near is uncertain. A study in the American Journal of Public Heath found that the "overcrowding and poor-quality housing [found in many public housing complexes has] a direct relationship to poor mental health, developmental delay, heart disease, and even short stature" (Bashir, 2002).[176] Certain reports paints a grim picture of daily life in public housing projects including higher than average exposure to harmful chemicals and exhaust fumes, infestation of germ-carrying insects and vermin, trash and junk littering walkways and yards, and the mental pressures of stress, fear, and isolation (Schell & Denham, 2003).[177] Infants and children, are especially at risk to these negative effects while in their developmental stages. Other studies have found that housing complexes are often located in areas with higher levels of pollution and lower than average environmental quality (Braubach 2012).[178] Lead poisoning, in particular, has been prominent. This is perhaps the most incontrovertible sign of negative health effects in public housing, as even small amounts of it can kills brain cells and produce significant harms to infants.[179]

The Moving to Opportunity program suggests that families living in low-poverty areas had improved health outcomes (Goering & Feins, 2003). Four to seven years after their relocation, adults in mover families showed lower rates of obesity (11%) and better mental health outcomes, despite having roughly the same rate of employment and public benefit participation as the control group. Additionally, young females who had moved exhibited a much

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[176] Bashir, Samiya A. "Home is where the harm is: inadequate housing as a public health crisis." *American Journal of Public Health* 92, no. 5 (2002): 733-738.
[177] Schell, Lawrence M., and Melinda Denham. "Environmental pollution in urban environments and human biology." *Annual Review of Anthropology* 32, no. 1 (2003): 111-134. See Galster 2012 literature review of public housing for more.
[178] Braubach, Matthias, and Jon Fairburn. "Social inequities in environmental risks associated with housing and residential location—a review of evidence." *European Journal of Public Health* 20, no. 1 (2010): 36-42.
[179] Supra., Note 111.

lower level of psychological distress and lower rates of arrest.[180] A summary of empirical evidence from 13 articles across five different housing mobility studies concluded that these studies suggests that neighborhood matters, so even the poor living in a more prosperous neighborhood would be much better off. Primarily this would come through lower rates of substance abuse, better mental health, less violence, and significantly less obesity (Acevedo-Garcia, et. al., 2004).[181]

***Unemployment and Lack of Social Mobility***

One notion of public housing is that it is temporary assistance meant to help people get back onto their feet. This is largely inaccurate. While about 20% of current public housing residents have been there for less than a year, over half of current public housing residents have been residing in the same unit for over five years. About 14% have been in the same unit for over 20 years.[182] Although some of this longevity of tenants is due to the high number of elderly in public housing, this is only a portion. Much of this immobility means residents are getting stuck in areas of high poverty concentration, and subsequently are suffering from substantial negative neighborhood effect. This is especially pressing if these families have kids, as the results from Moving to Opportunity shows that children are those most likely to have their lives improved from a change in neighborhood. Unfortunately, the notion that most public housing residents are unemployed is true. Currently only 34% of residents have any wages.[183] Nationally, the unemployment rate for even those without a high school degree is only around 8% (this only got

[180] Goering, John M., and Judith D. Feins, eds. Choosing a better life?: Evaluating the moving to opportunity social experiment. The Urban Insitute, 2003.
[181] Although the results are encouraging, the authors give an important caveat that there is relatively little good empirical evidence and not all the studies are methodologically sound. Acevedo-Garcia, Dolores, Theresa L. Osypuk, Rebecca E. Werbel, Ellen R. Meara, David M. Cutler, and Lisa F. Berkman. "Does housing mobility policy improve health?." *Housing Policy Debate* 15, no. 1 (2004): 49-98.
[182] Supra., Note 104.
[183] Ibid. 2

as high as 16% during the worst of the 2008 Financial Crisis). Compared to the national average, these unemployment rates may seem high, but research has found that public housing residents are not atypical in their low employment numbers when looking at similar populations in private housing (Reingold 1997).[184] Unemployment and a lack of social mobility are entangled with many of the other problems seen in public housing.

***Savings and Assets***

Poverty is fundamental to public housing, and fundamental to poverty is a lessened ability to save. The poor pay a higher percentage of their income to purchase the necessities of life: food, housing, clothing, utilities, etc. Living paycheck to paycheck is more than an expression to most public housing residents. In fact, analysis of an Bureau of Labor Statistics data suggests that the poorest in America, including most of those in public housing, spend well over 100% of what they make every year from income and public assistance, forcing them to borrow or draw from savings.[185] Resultantly, the median net worth of a poor family living in poverty in Detroit, Michigan is $1,000.[186] As the last chapter discussed, this is how residents of public housing succumb to the behavioral factors involved in the scarcity mindset. Scarcity exacerbates present bias, and understandably those just trying to make ends meet are not focused on saving for a future that is decades away (Shiv & Fedorikhin, 1999).[187]

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[184] Reingold*, David A. "Does inner city public housing exacerbate the employment problems of its tenants?." *Journal of Urban Affairs* 19, no. 4 (1997): 469-486.
[185] Banerjee, Abhijit V., and Esther Duflo. "The economic lives of the poor." *The journal of economic perspectives* 21, no. 1 (2007): 141-167.
[186] Daminger, Allison, et al. "Poverty Interrupted: Applying Behavioral Science to the Context of Chronic Scarcity." Ideas42. (2015).
[187] Shiv, Baba, and Alexander Fedorikhin. "Heart and mind in conflict: The interplay of affect and cognition in consumer decision making." *Journal of consumer research* 26, no. 3 (1999): 278-292.

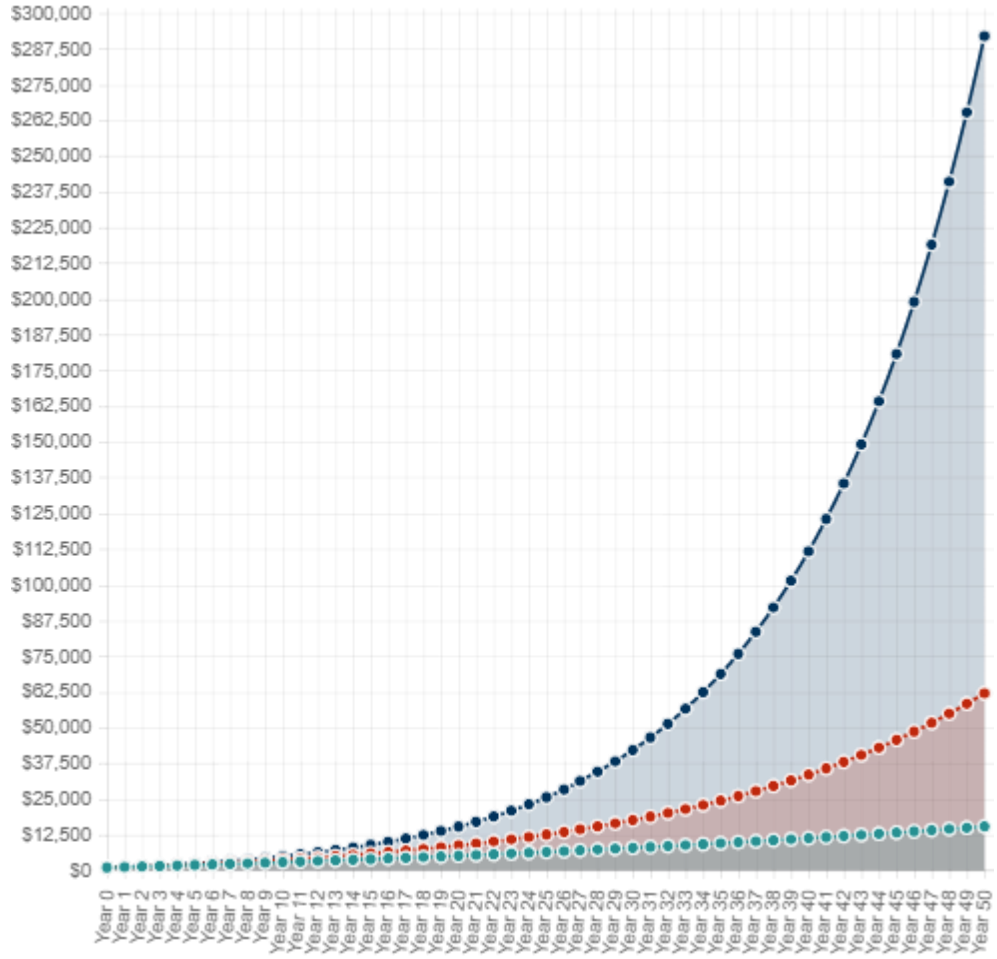


**Figure 5.3 Fifty years of savings with lines showing compounding interest rates of 10%, 6%, and 2%**

Asking those in poverty to just "save more," is unhelpful and can be considered condescending if it comes from those who do not intimately know their financial situation. Saving perhaps seems impossible. The bias of over-optimism about the future dominates, and residents do not see a present need to save. The problem is, that when residents start saving for retirement it will be too late, as they will not be able to benefit from the significant returns garnered from compounding interest. Say residents start with $1,000 in principle in an investment account and save only $150 a year (about 1% of annual income), at an interest rate of 6% in 10 years only $3,767.96 has been

saved, but in 50 years $61, 970.54 has been saved (see figure 5.3). This is the magic and curse of compound interest, and because of it, residents cannot afford to not save and invest.

***Lack of Social Capital and Community***

In all the literature on public housing, arguably the most ink has been spilled on the social and community elements of public and affordable housing. The social and community aspect of neighborhood effects in urban high poverty concentration neighborhoods has been portrayed by most scholars as highly dysfunctional and interwoven into the many other problems experienced in high poverty concentration areas (Wilson, 1987; Elijah Anderson, 1990; George Galster, 1995; Venkatesh, 2006).[188] For example, sociologist Sudhir Venkatesh explains how poverty creates a series of surprising informal relationships to create a complex and unrecorded internal economy. Venkatesh gives the example of religious leaders making tacit alliances with gang leaders to keep peace, and many perform a series of odd jobs for in-kind payments in lieu of cash.[189] In this way, the social structure in high poverty areas can be simultaneously supportive and limiting, and despite the overall adverse effects of concentrated poverty locations, moving to new areas through voucher programs or other relocation programs and break certain important local ties which are hard to or sometimes not at all established in new neighborhoods (Curley 2009).[190]

Social capital in poor urban neighborhoods continues to be underdeveloped, yet this resource is key to improving quality of life in high poverty areas (Lang & Hornburg, 1998;

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[188] Supra., Note 142.; Anderson, Elijah. "Streetwise: Race, Class, and Change in an Urban Community." 66 (1990).; Galster, George C., and Sean P. Killen. "The geography of metropolitan opportunity: A reconnaissance and conceptual framework." *Housing Policy Debate* 6, no. 1 (1995): 7-43.
[189] Venkatesh, Sudhir Alladi. Off the books. *Harvard University Press*, 2006.
[190] Curley, Alexandra M. "Draining or gaining? The social networks of public housing movers in Boston." *Journal of Social and Personal Relationships* 26, no. 2-3 (2009): 227-247.

Postlewaite, 2011).[191] Case studies show that higher levels of social capital have the same positive effect as home ownership in terms of improving neighborhood stability and outcomes (Temkin & Rohe, 1998).[192] In looking to measure social capital, it is important to look at a community's "collective efficacy." It defines this as "its cohesion, shared values, expectations, and trust." [193] Unfortunately, in groups of Chicago public housing residents, community efficacy was found to be strikingly low. For example, asking parents if they believed that people in their neighborhood can be trusted yielded only 25% saying yes. In the average Chicago neighborhood around 68% answer yes, a full 43% higher. As the Urban Institute notes, social networks are a necessary way to make ends meet for low income families, but these residents aren't finding that they have that kind of social safety net in their neighborhoods.[194]

### *Physical Distress of Public Housing*

At the beginning of the life of public housing, the program focused on what's often referred to as "slum clearance" meaning that as part of the development of new public housing units, old private units nearby deemed insufficient for occupancy had to be cleared. This "equivalent elimination" principle, while seemingly a well-intentioned measure to improve urban design and sanitation, constrained the flexibility of public housing developers. Not all of the cleared houses were in such bad condition as to merit complete demolition, so those areas that were primed for replacement were often poor, predominantly minority neighborhoods in urban areas. This measure meant that public housing must also be built in crowded urban areas on

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[191] Lang, Robert E., and Steven P. Hornburg. "What is social capital and why is it important to public policy?." *Housing policy debate* 9, no. 1 (1998): 1-16. And Postlewaite, Andrew. "Social norms and social assets." *Annu. Rev. Econ.* 3, no. 1 (2011): 239-259.
[192] Temkin, Kenneth, and William M. Rohe. "Social capital and neighborhood stability: An empirical investigation." *Housing Policy Debate* 9, no. 1 (1998): 61-88.
[193]Gillespie, Sarah, and Susan J. Popkin. "Building Public Housing Authority Capacity for Better Resident Services." (2015).
[194] Ibid.

expensive lands versus on much cheaper suburban lands. This further pressured already constrained PHA budgets.[195] In addition to the quality concerns for public housing, individual room design was often quite austere: rooms were small, dining areas often had insufficient space to fit a family dining table, closets were built without doors, and tenant often had to pay to get what would normally be considered essentials like cabinets and showerheads. Buildings were densely populated, but still often lacked any kind of recreational spaces, and parents often complained that what parks or playgrounds did exist were far from the complexes, making it difficult for them to monitor their children. This is perpetuated by the fact that of the 39% of tenants with children, 91% were single parents and another 4% were disabled.[196]

Physical distress of this housing hit a high in the 1980s and 1990s, forcing Congress to act through the HOPE VI replacement and revitalization program. Still, even with nearly $6.1 billion distributed through this, approximately 260,000 public housing units have been declared unsuitable for habitation since the 1990s.[197] Additional units are declared "severely distressed," and although not "uninhabitable" yet still have huge backlogs of repairs and struggles with problems like rampant vandalism, poor construction, and negligent management. While most developments meet their goal of providing decent, affordable housing to those who need it, those developments which have spiraled into inhabitability are far worse off than just being outdated or run-down; they are improper for all but the most desperate.

For many of these housing complexes, trouble was seeded at the beginning of their lives. Many were constructed in simplistic fashions out of cheap, non-durable materials. Costs were constrained from the beginning and groups that potentially faced rivalry from public housing

[195] Supra., Note 81.
[196] Supra., Note 88. 32.
[197] Ibid.

lobbied to ensure that the public units built would be unacceptable substitutes for private sector real estate.[198] Corners were cut on insulation, interior furnishing (cabinets, closets, etc.), plumbing, electric installation, and unit size. The result has been residences with shorter life spans and inadequate accommodations. Beyond just initial design and construction issues, there has been a real problem in many complexes ensuring the upkeep of the property. Sometimes poor materials and design directly caused the problem, other times these factors just exacerbate the harms caused by poor maintenance. For example, despite most urban public housing being built in a high-rise design, elevators are often broken.[199]

Not only is public housing distress unpleasant for residents, it increases the expense of operation and maintenance for PHAs and HUD. Problems like obsolete mechanical and electrical systems, old plumbing, and consistent breakage in public areas demands more time from maintenance staff and contractors. Harvard's Graduate School of Design prepared a report for HUD, outlining the costs of public housing operation and found that, perhaps unsurprisingly, older public housing properties (classified as properties over 26 years old) cost 10% more to operate than equivalent properties built within the past 10 years.[200] This alone is only part of the problem. One of the key findings of Congress's 1992 report on severely distressed public housing is that vacancies are one of the reasons public housing complexes can descend into a state of perpetual disrepair. Distressed public housing authorities often have high vacancy rates. A combination of managerial ineffectiveness and maintenance staff shortage prevents new housing units from being assigned and readied for occupancy as quickly as they could be. Each additional vacant unit is not only lost income for a public housing authority, it's also increased

[198] Supra., Note 81. 8.
[199] Supra., Note 81. 9-10.
[200] Harvard Graduate School of Design. "Public housing operating cost study." (2003).

costs for otherwise unnecessary expenses such as increased security, eviction of squatters, and vandalism and graffiti cleanup.[201]

Despite concerns of the contrary, public housing generally has no effect on the value of surrounding properties. That is except for in cases of public housing that has been labeled "distressed" which can, due to an extreme concentration of poverty, increase overall poverty of a neighborhood. Research done by HUD has found that this concentrated poverty can undermine the viability of local businesses, schools, civic institutions and exacerbate crime. One reason is that concentrated poverty can put a strain on city services, both for services dedicated directly to poverty-alleviation and for those just related to general public services.[202] Cities with high poverty rates spend approximately $294 more on poverty-alleviation and approximately $813 more on general public services than cities with low poverty rates.[203] Further research has shown that for every increased percentage uptick in poverty, an additional $27.75 is added to per capita expenditure on general public services.[204]

***Public Housing Mismanagement***

Public Housing Authorities vary widely across the country in terms of their design and effectiveness. Some control just a few complexes, while others, like the New York City Housing Authority, the country's largest, controls about 17% of all public housing units nation-wide. It's usually large urban PHAs which come under scrutiny. In 2010 146 PHAs were marked as "troubled" due to mismanagement, insufficient operating margins, poor maintenance, high

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[201] Supra., Note 93.
[202] Services here classified as "directly related to poverty" include hospitals, public welfare, and health. Services classified as general public services include things such as police, courts, fire, sanitation, recreation, and infrastructure.
[203] Inflation adjusted from 1990 dollars to 2017 dollars
[204] Pack, Janet Rothenberg. "Poverty and urban public expenditures." *Urban Studies* 35, no. 11 (1998): 1995-2019.

vacancy rates, and uninhabitable units.[205] Although the number went down to 38 in 2014, this is largely because of a loosening of the rules, rather than some dramatic PHA improvement. Troubled PHAs are notorious for taking too long to conduct small requested repairs, frequently not meeting health and safety code, not cleaning up or trying to prevent vandalism, and delaying leasing (leading to high vacancy rates).[206] Many of the problems with PHAs are tied to rational-actor factors like poor incentives and ineffective regulation, but PHAs are organizations of people and thus susceptible to behavioral factors all the same.

**Conclusion**

The discussion of this chapter has served to provide evidence to begin looking to behavioral problems in public housing. Recall the framework presented in Chapter 3. It is important for behaviorally informed policymakers to look at all the problems present in a policy area before sorting them out and deciding what is and isn't behavioral. The opening of this chapter did that by providing figure 5.1 and a discussion of how it operates. The rest of the chapter discussed the elements of figure 5.1 to get a clearer understanding of all the problems in play. Now Chapter 6 will discuss the nature of some of the behavioral mechanisms tying together figure 5.1.

[205] Shiffer, James E. "Map: troubled housing authorities across the nation." *The Star Tribune*. July 3, 2014.
[206] Supra., 81. 506-507.

# CHAPTER 6:

# APPARENT BEAHVIORAL FACTORS (BIASES AND HEURISTICS) AT WORK IN PUBLIC HOUSING

Confronting all the many complex and multidimensional problems in public housing with a tool as subtle as behavioral economics seems daunting and perhaps impossible. Indeed, behavioral economics alone is not enough to take on the many problems present in public housing, but it was never designed to. Behavioral interventions are no cure-all. Interventions are only meant to attack a specific cause of problems: "irrational behavior-related" causes of problems in public housing, as shown below as the red circle in figure 6.1.

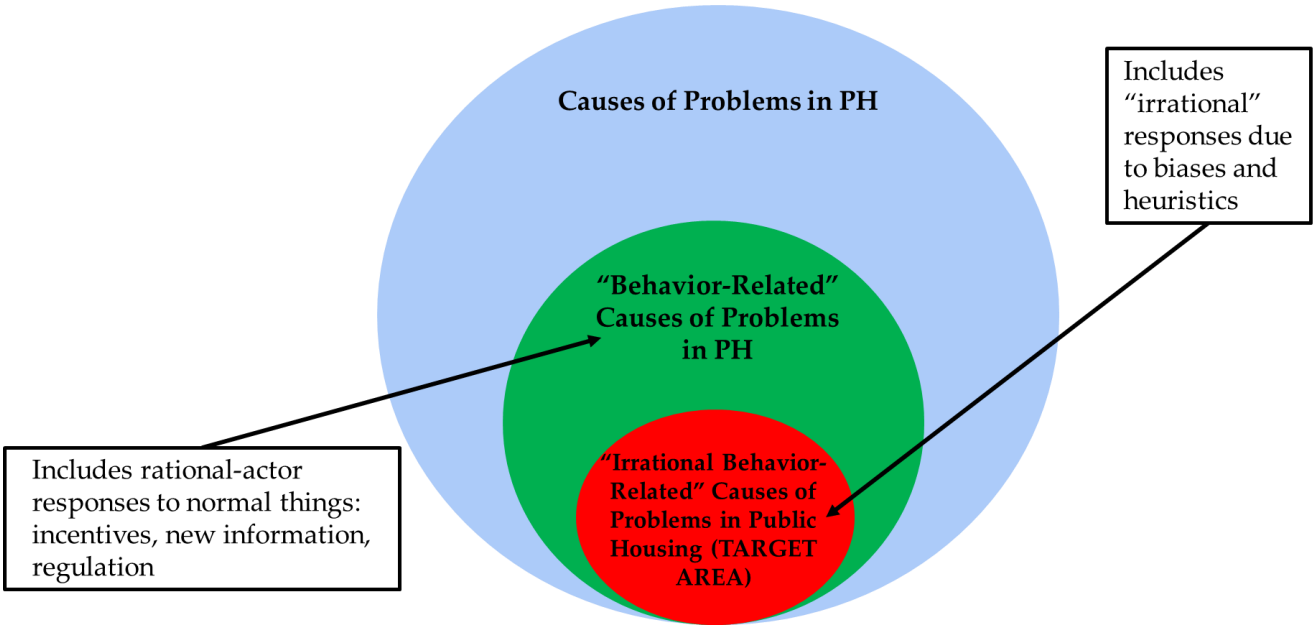


**Figure 6.1 Stratifying the Causes of Problems in Public Housing to Find Irrational Behavior-Related Causes**

The question this paper seeks to answer is not how all problems in public housing can be solved, but how behavioral economics can help make a difference in the lives of public housing residents on the margins by correcting for behaviorally rooted problem in public housing. As Chapter 2 showed, some of these problems can be associated with behavioral biases and

heuristics which can either contribute as the primary cause of the problem or act to confound the problem.

As discussed in the previous chapter, and modeled through figure 5.1, the problems *seen in* public housing are themselves complex and hard to establish causal chains for. The main contributors to these *seen in* problems, were poverty, which is shown to correlate with certain mal-effects, PHAs' lack of resources, and negative neighborhood effects, which occur primarily

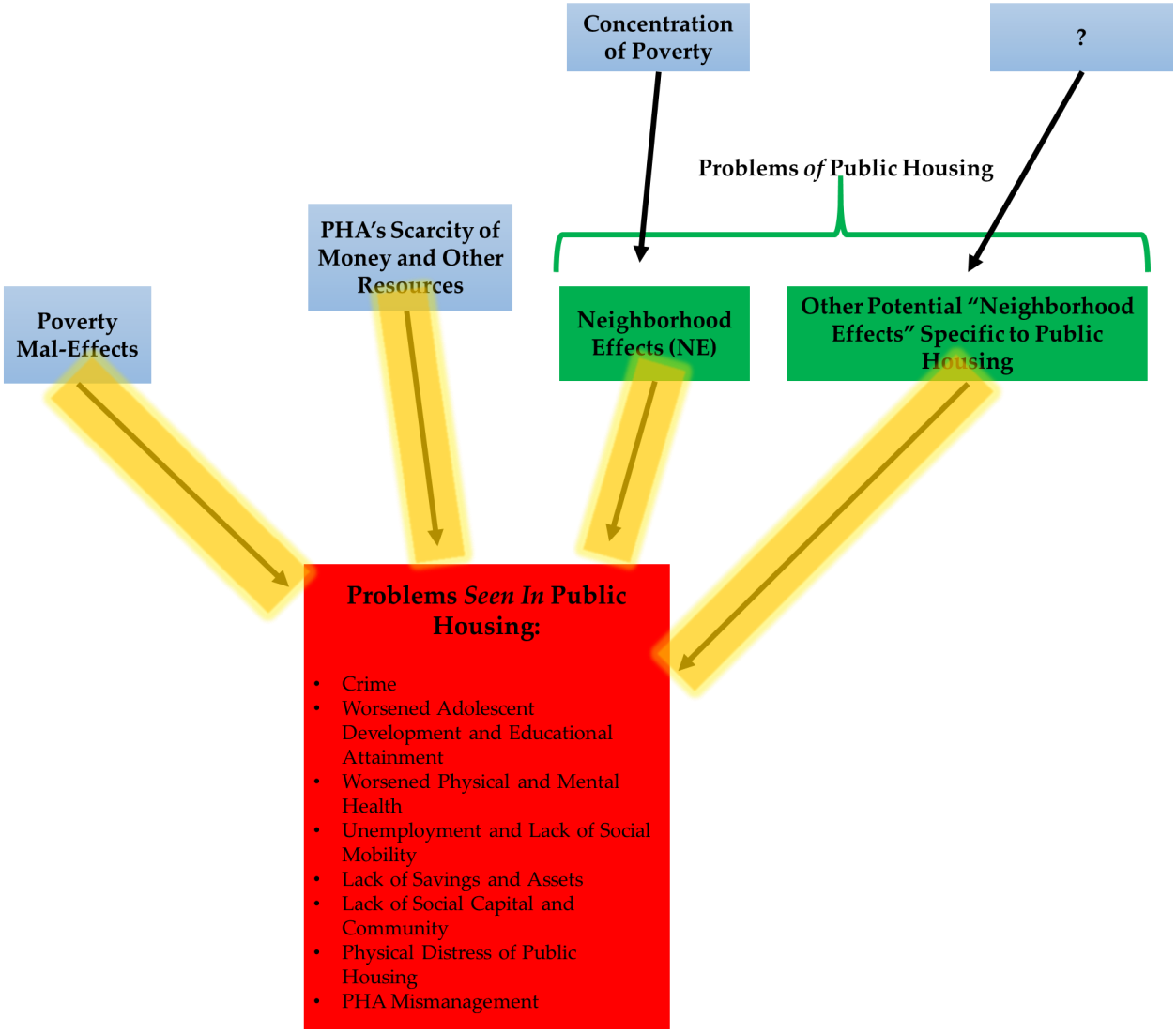


**Figure 5.1 (reproduced) Visualization of the Problems in Public Housing Highlighting Where Causal Factors Fit (Figure 6.1 Represents a Detailed Look at Highlighted Arrows)**

because of a concentration of poverty. As was also discussed in the previous chapter, the establishment of causality is difficult to make and there are many suspected causal factors. This chapter will look further at some of the potential causes of these factors and ask how poverty and concentrated poverty are part of the causes of the problems seen in public housing. Why does poverty produce so many of the problems we see? Why can neighborhoods influence the behavior of individuals?

These causal factors explored in figure 6.1 represent the arrows highlighted in the above reproduction of figure 5.1. Each arrow is an amalgamation of all different types of causal factors including causes which are not at all related to behavior, causes which are related to rational behaviors, or causes which are related to irrational behaviors. Looking at figure 6.1 is like zooming in to see the detail of one of the arrows. The amount of each type of causal factor contained in each arrow varies with what root cause each arrow is emanating from. Figure 6.1 is helpful in that it shows how these different causal factors can be broken up to dissect only those causes which are relevant to this paper.[207] Admittedly this model of breaking up figure 6.1 and its connections to figure 5.1 is more of an aspirational framework to help us understand the situation, but in the real world we cannot divide up these causations so accurately. This is an ideal state, but it is a helpful one to visualize what behavioral interventions can and should target. While current research has not discovered all the different casual factors at play in public housing's problems, the potential causal factors can still be categorized. The large, light-blue circle in figure 6.1 represents all possible causal factors of the problems seen in public housing. Scarce funding, for example, would fall into this category, as it is a likely to cause of some of the

[207] Note, figure 6.1's circles are not intended to be at scale in showing how much of the causation is attributable to which types of causes; it is merely illustrating that

problems seen but not related to the behavior of a rational actor nor the behavior of an irrational actor. Within this circle is a green circle which represents all "behavior-related" causes of problems in public housing. As the figure notes, this includes "rational actor" type behaviors such as a response to incentives, new information, and regulation. Like in the circle above, there are innumerable examples of what might be in this circle. Perhaps residents or PHAs did not have a proper incentive to take care of their property. This would lead to unfortunate outcomes for the quality of public housing complexes, but it would be a "rational" choice. Criminal activity, if it is the only source of income, may also be a "rational" behavior causing problems in public housing. These are all essential sources of problems to look at in public housing, and almost certainly larger causes of problems than irrational, behaviors, but these negative contributors are countered by making changes to the rational equation through mechanisms like effective policy, not through behavioral interventions. This means that the only causes of problems this paper is concerned with are those found in the small red circle. This circle represents causes of problems due to "irrational" behavior caused by some heuristic or bias. This paper will diagnose what some of these potential biases and heuristics are below, before then providing ways to counter them with behavioral interventions in the next chapter.

The difference between rational and irrational causes can sometimes be hard to identify. Consider this example: public housing residents and other individuals in poverty are far more likely to take out a short-term, high-interest payday loan. The interest rates on payday loans are substantially higher than those on equivalent means of credit such as credit cards. Too often these individuals take out payday loans, but underestimate the amount of interest they will owe, often meaning they cannot repay them, only worsening their financial situation.[208] If the poor are

[208] Smith, Noah. "Avoiding Payday Loans Makes the Poor Richer." Bloomberg. July 27, 2017.

resorting to payday loans because they do not have viable alternatives, and payday loans are what makes the more financial sense for them, then this is a "rational" actor issue outside of the scope of behavioral economics. But, if the poor choose payday loans because of behavioral "irrationalities," such as present bias, over optimism about their ability to pay back, and, say, an emphasis on quick, inaccurate, system 1 type calculations, then this is a causes of problems seen in public housing (the problem *seen* here is a lack of assets and savings) which can be countered with behavioral interventions. Indeed, in this example, evidence would point to the latter as being more descriptive of why payday loans are so heavily used by the poor.[209] Even if some in poverty are acting rationally in taking out payday loans, if others are not, behavioral interventions are still of use to those acting irrationally and will not have an impact on those already acting rationally.

Since behavioral economics is not a unified theory, and we do not understand all the complexities of the human mind, this paper cannot be comprehensive or exact in diagnosing all the potential "irrational behavior-related" causes of problems in public housing. Instead we must try to find ways individuals are causing problems by acting "irrationally" in public housing and match these acts to existing known biases or heuristics. While this is a disadvantage, in that certain unknown or unrecognized biases and heuristics may also be at work, this is an inevitable problem of working with behavioral economics.

**Apparent Biases and Heuristics at Work**

As mentioned in Chapter 3, to understand potential "irrational" behavioral factors at play, policymakers need not discover their own biases and heuristics. They need only look at the

[209] Supra., Note 65.

existing behavioral economics "codex" that is forming as an accumulation of known biases and nudges. The following are apparent biases and heuristics likely at work in public housing based on the problems seen in public housing. Since public housing is primarily a problem of concentrated poverty, many of these effects affect impoverished individuals as a whole, but are made worse by the extreme concentrations of poverty often present in public housing.

***"Scarcity Mindset"***

Building on previous research, in their 2013 book, *Scarcity,* economist Sendhil Mullainathan and psychologist Eldar Shafir present something called the "scarcity mindset" which expresses how scarcity, be it scarcity of time, money, food, or any other essential life factor can impair processing capabilities.[210] The human mind narrows to focus on the scarce item, allowing for more precise attention to be given to it, but this focus also causes adverse effects.[211] A new behavioral concept generated by this scarcity mindset is that of mental "bandwidth." This behavioral principle says that we have limited mental processing capacity and overwhelming this limited capacity results in less capable behavior (a "tax" on our bandwidth) which will tend to worsen our situation.[212] The effects of this bandwidth tax are surprising, affecting even qualities that are traditionally thought to be personality or skill dependent such as patience, attention, and dedication.[213] We become "less insightful, less forward-thinking, and less controlled" (Kaplan & Berman, 2010; Mani, Mullainathan, Shafir, & Zhao, 2013).[214] Later work further suggests that the use of Kahneman's Type 2 thinking, the slower, more analytical form of

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[210] Mullainathan, Sendhil, and Eldar Shafir. *Scarcity: Why having too little means so much.* Macmillan, 2013.
[211] Ibid. 19-38.
[212] Ibid. 39-66.
[213] Ibid. 64-66.
[214] Quote from: Mani, Anandi, Sendhil Mullainathan, Eldar Shafir, and Jiaying Zhao. "Poverty impedes cognitive function." *science* 341, no. 6149 (2013): 976-980. Also see Kaplan, Stephen, and Marc G. Berman. "Directed attention as a common resource for executive functioning and self-regulation." *Perspectives on Psychological Science* 5, no. 1 (2010): 43-57.

critical thinking, takes up significant mental bandwidth, leaving the mind only able to perform type 1 thinking in situations other than the one type 2 thinking is concentrating on at the moment (Schilbach, Schofield, & Mullainathan; 2016).[215]

While focus allows people to be more concentrated, it also leads to a behavioral principle called "tunneling." Mental bandwidth expresses how our processing capacity is limited, but tunneling describes how we actually confront issues. Think of how the mind creates a dangerous "tunnel vision" in order to focus on immediate scarce needs. Tunneling causes individuals to narrow their focus only on what is immediately in front of them rather than on other, less immediate concerns. Because of this, the scarcity mindset is linked to other behavioral biases.[216] Present bias is perhaps the most obvious. Rewards in the present far outweigh long-term considerations.[217] An extreme focus on accomplishing one thing, say perhaps on finishing an assignment near a deadline, will lead to neglect of longer-term considerations of currently non-scarce things like health and money (Laibson, 1997; Thaler, 1991).[218] Additionally, tied in with scarcity is "ego depletion," or the idea that self-control and will power are limited; use of these mental forces requires mental bandwidth which is limited.[219] Poverty, scarcity of money and wealth, in particular has been shown to diminish self-control (Spears, 2010).[220]

Friction costs are seemingly small or insignificant costs or barriers to programs or services which can deter individuals from applying or registering for said programs in ways that

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[215] Schilbach, Frank, Heather Schofield, and Sendhil Mullainathan. "The psychological lives of the poor." The *American Economic Review* 106, no. 5 (2016): 435-440.
[216] Supra., Note 210. 19-38.
[217] Ibid., Note 210. 114.
[218] Laibson, David. "Golden eggs and hyperbolic discounting." *The Quarterly Journal of Economics* 112, no. 2 (1997): 443-478. And Supra., Note 11.
[219] Supra., Note 210.
[220] Spears, Dean. "Economic decision-making in poverty depletes behavioral control." *The BE Journal of Economic Analysis & Policy* 11, no. 1 (2011).

rationally shouldn't when looking at the benefit of the program (Currie, 2004). The costs aren't just monetary. Friction costs can be lengthy or complex forms, documentation requirements, or processes. The UK's Behavioral Insights Team even found that an extra required mouse click will reduce clickthrough rates.[221] In processes such as taxation or college application which can be so complex that individuals seek external assistance, an increased burden is placed on low-income individuals who don't have the time or money to seek outside assistance.[222] Still, these are seemingly small barriers to outsized gains such that these barriers should not deter a strictly rational actor.

Lastly, myopic procrastination occurs as a result of limited bandwidth and a narrow focus on certain scarce resources.[223] This behavioral flaw is fairly straightforward: people put off decisions or tasks and, detrimentally, focus only on the short term. Experiencing scarcity triggers a number of cognitive biases and heuristics due to the limits it places on mental bandwidth. Mullainathan and Shafir write that the negative effects placed by these cognitive limits can lower a person's effective IQ be as much as would be the case without a night's sleep (roughly 13 points less). The authors called these culminating influences a "scarcity trap," as the mindset created by scarcity only serves to further perpetuate scarcity. The scarcity-afflicted find themselves playing catch-up in many areas while already juggling many things on their mind. This is at the heart of the scarcity trap. But not all scarcity is created equal. As the authors write, "dieters can take a break from their diet. The busy can take vacations. [But] one cannot take a vacation from poverty. Simply deciding not to be poor—even for a bit—is never an option."[224]

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[221] Behavioural Insights Team. "EAST: Four simple ways to apply behavioral insights." Nesta. (2014).
[222] Blank, Rebecca M., and Michael S. Barr, eds. Insufficient funds: Savings, assets, credit, and banking among low-income households. Russell Sage Foundation, 2009.
[223] Supra., Note 210. 117-121.
[224] Ibid. Note 210. 148.

*Scarcity in Poverty*

The scarcity mindset can potentially help explain why those in poverty have such bad outcomes in so many areas that can only be indirectly related to having little money. Mullainathan and Shafir call this the "elephant in the room" for poverty researchers.[225] Part of the struggle with helping people in poverty is that they do not seem to always be acting in their own best interest. The facts are overwhelming and cover a range of different contexts. Take diseases for example. Diseases such as diabetes and HIV are not curable, but with proper pharmacology they are manageable. Still, even in developed countries where these drugs are relatively accessible diabetics take their medication only 50-75% of the time. As a result, diabetes and other diseases still kill and maim millions. Overwhelmingly those least likely to take their medicine are the poor. Poor farmers, mostly in the developing world, fail to weed and fertilize properly despite having the time and knowing the benefits. Parenting research shows the poor are often worse parents in terms of being harsher with kids and less connected. The poor have higher rates of obesity, lower rates of vaccination, and worse health habits. Even public assistance is taken up at surprisingly low rates.[226] It is painful to observe, but, as the researchers explain, even accounting for factors like the potential bias of researchers observing these actions of the poor and other explanations of this nature, there is an undeniable mass of evidence.[227] This evidence is disturbing to researchers who often are in their line of work because of deep sympathy for the poor. Undoubtedly, many of these things can be somehow traced back to systemic disadvantage or economic costs. For example, obesity is at least partially more prevalent because unhealthy food is cheaper, but as tempting as it is to just look at these

[225] Ibid.
[226] Currie, Janet. *The take up of social benefits*. No. w10488. National Bureau of Economic Research, 2004.
[227] Supra., Note 210. 150-155.

explanations, it would be a negligent omission to rule out other behavioral factors just because we find them unpalatable. A quote from one of Mullainathan and Shafir's earlier papers on this subject best sums up the explanation for "the elephant in the room": "the behavioral patterns of the poor…[are] neither perfectly calculating nor especially deviant. Rather, the poor may exhibit the same basic weaknesses and biases as do people from other walks of life, except that in poverty, with its narrow margins for error, the same behaviors often manifest themselves in more pronounced ways and can lead to worse outcomes."[228] Many of these negative behaviors have little or no associated ties to monetary value, but the poor still do more of them. Although these statistics are relatively well known, they are often ignored and disregarded as unsatisfying and insulting to those in poverty who these researchers are determined to help.[229]

Previous explanations for "the elephant in the room" centered on the existence of a nefarious "culture of poverty," in which poverty so changed the poor that they develop a sub-culture that tends to perpetuate their own poverty (Lewis, 1959; Lewis, 1966).[230] The unsatisfying immediate implication of this seems to be a sort of social Darwinism in which the poor must be acknowledged as fundamentally inferior, less competent people. For this reason and others, this argument was largely rejected by most academics, but the evidence of the poor not acting in their own self-interest remained soberingly clear. Mullainathan and Shafir fill a critical knowledge gap by providing an explanation as to why so many of these negative outcomes remain apparent: the stresses and pressures of poverty itself are mentally limiting. A vicious cycle entraps people in poverty, as poverty-related concerns dominate a poor individual's

[228] Supra., Note 70.
[229] Supra., Note 210.
[230] Lewis, Oscar. Five Families: Mexican Case Studies in the Culture of Poverty; with a Foreword by Oliver La Farge. *Ew American Library*, 1959. and Lewis, Oscar. "The culture of poverty." *Scientific American* 215, no. 4 (1966): 19-25.

mental bandwidth, leaving less room for other tasks. What is fortunate is that the scarcity problem is not a moral or personal flaw but a "contextual outcome." As the behavioral understanding of poverty improves, policymakers can increasingly understand how context and resultantly, outcomes, can be changed.[231]

***Social Dimensions***

Social dimensions, as were earlier discussed, significantly impact our choices beyond what is economically rational. Still, it is worth keeping in mind that not all socially-related actions taken by actors are irrational. Many actions, even if negative and/or anti-social, can be considered rational for a utility-maximizer to do. Because of this, discussions of social dimensions can muddy the waters between what is and what is not an irrational act, and although we are looking for irrational acts in this chapter when trying to decide the behavioral problems in public housing, we can wave the stringency of that requirement somewhat for this section. A great number of actions may be individually utility-maximizing, but harmful to the community as a whole. Thus, when looking from the community perspective, interventions can still be used to create pro-social behavior.

Many of the leading hypothesis as to what causal mechanisms are driving negative neighborhood effects as seen in high poverty concentration neighborhoods, like those much of public housing is located in, revolve around social dimensions. Many of the relevant hypothesis for how neighborhood effects work are examples of the concepts of social norming, social proof, and herd mentality.[232] These concepts are about social signaling which conveys "appropriate"

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[231] Supra., Note 210. 144-145.

[232] These hypothesized causal mechanisms include: **social contagion models**, in which "behaviors, aspirations, and attitudes may be changed by contact with peers who are neighbors"; **collective socialization models** in which "individuals may be encouraged to conform to local social norms conveyed by neighborhood role models and other social pressures"; and **social network models,** in which "individuals may be influenced by the interpersonal

behavior or behavior which will align an individual to be more in conformity with the group. Sometimes choices to act in a certain way are made in conformity with the group but against personal interests and desires. These social forces are rooted in the individual's desire to fit in to a group, even if sometimes doing so is not the behavior that would be taken by a rational actor. Additionally, "social cohesion" models of neighborhood effects show that the degree of social disorder in a neighborhood influences resident's psychological state and behaviors (Sampson, Morenoff, and Earls, 1999).[233] In the US, all of these hypothesized effects have been found to have empirical backing in research. The effect is non-linear, but neighborhood poverty rates are consistently related to a number of negative outcomes through the influence of peers, role models, and social norms. As discussed in Chapter 5, areas of high poverty concentration have consistently been found to have weaker social coherence and thus weaker informal social controls in the neighborhood. This helps add to some negative factors found in poor neighborhoods like heightened mental health problems and higher levels of crime. Sadly, overall the positive influence seen from positive neighborhoods has been much smaller than the negative influence seen from negative neighborhoods. This is perhaps because although positive neighborhoods have been shown to provide some positive externalities, like safety, there is typically limited social network mixing across different income levels and races.[234]

### *Self-Integrity & Self-Affirmation*

Self-perception, how we see ourselves and how we want to be seen can shape our actions in ways largely unaccounted for in a rational actor model. An individual's desire to, "protect and

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communication of information and resources of various kinds transmitted through neighbors." (See Galster in Note 111.

[233] Sampson, Robert J., Jeffrey D. Morenoff, and Felton Earls. "Beyond social capital: Spatial dynamics of collective efficacy for children." *American sociological review* (1999): 633-660.

[234] Supra., Note 111.

maintain their perceived self-integrity," will often do so though self-regulation, self-surveillance, and self-scrutiny (Steele, 1988; Sweetman, 2003; Adams, et al., 2006; Sherman & Cohen, 2006).[235] Additionally, many in poverty feel what has been called a "moral tax," in which the poor can sometime feel like they are morally worse just because they are poor.[236] This is perpetuated by the "broken window" effect in which physical environment can shape perceptions of one's self and one's community.[237] A lack of business investment in an area can create the impression that the area and its people are unimportant to powerful corporations and governments. Additionally, sometimes obsessive measures at fraud prevention and control for public benefits like drug screenings, mandatory classes, and excessive bureaucratic hoops to jump through can feel condescending and an unproductive waste of the person's scarce time and cognitive bandwidth. These are just a few of the many examples of the ways in which the poor are constantly judged and treated like their economic scarcity is a symptom of deep character flaws and immorality. See Batty & Flint, 2010 for a full review of the literature of self-esteem and its effects on poverty.[238]

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[235] Steele, Claude M. "The psychology of self-affirmation: Sustaining the integrity of the self." *Advances in experimental social psychology* 21 (1988): 261-302.; Sweetman, Paul. "Twenty-first century dis-ease? Habitual reflexivity or the reflexive habitus." *The sociological review* 51, no. 4 (2003): 528-549.; Adams, Glenn, Teceta Thomas Tormala, and Laurie T. O'Brien. "The effect of self-affirmation on perception of racism." *Journal of Experimental Social Psychology* 42, no. 5 (2006): 616-626.; and Sherman, David K., and Geoffrey L. Cohen. "The psychology of self-defense: Self-affirmation theory." *Advances in experimental social psychology* 38 (2006): 183-242.

[236] Attributed to sociologist Kathy Edin. See Supra., Note 186.

[237] Broken window theory is a controversial subject that has been somewhat discredited as a cause of more extreme behavior like violent crime. It was sold on the premise that "broken window policing" tactics like New York City's "stop and frisk" will control violent crime, but that hasn't been proven. Small crimes (e.g., broken windows) don't cause bigger crimes, but they may foster a sense of neglect. Because of this, broken windows theory isn't useless. George Kelling (co-inventor of the theory) says broken theory may not affect crime dramatically, but it still has value to explain other behaviors. Kelling speaking in an interview: "Even if broken windows did not have a substantial impact on crime, order is an end in itself in a cosmopolitan, diverse world. Strangers have to feel comfortable moving through communities for those communities to thrive. Order is an end in itself, and it doesn't need the justification of serious crime."

[238] Batty, Elaine, and John Flint. "Conceptualising the contexts, mechanisms and outcomes of intensive family intervention projects." *Social Policy and Society* 11, no. 3 (2012): 345-358.

These "moral taxes" in combination with the desire to avoid the threats of stigmas and stereotypes can motivate certain actions (Steele & Aronson, 1995; Steele, 1997).[239] Stereotypes can do more than just make people feel stigmatized; they can have a direct effect on performance. A famous example of this is a study in which different groups of Asian women who took math tests were primed either to think about their Asian identity (stereotyped with higher quantitative ability) or their female identity (stereotyped with lower quantitative ability). Those in the first group performed better on the test than did a control group, while those in the latter group performed worse (Shih, Pittinsky, & Ambady, 1999).[240] Class-based stereotypes can impact individuals in the same way that race and gender stereotypes can (Croizet & Claire, 1998).[241] Thus, the perpetuation of stereotypes about individuals can have a real effect on the actions of these individuals who are liable to begin believing these stereotypes themselves. For instance, public assistance is shown to have a strong stigma attached to it, and part of the reason for a relatively low take-up rate for public assistance is ascribed to the potential shame and embarrassment of being in the program (Kissane, 2003; Hernanz, Malherbet, & Pellizzari, 2004).[242] This stigma may also reduce collective social capital in poor neighborhood, as stigma causes lessened interactions between fellow public assistance recipients (Lin & Harris, 2009).[243]

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[239] Steele, Claude M., and Joshua Aronson. "Stereotype threat and the intellectual test performance of African Americans." *Journal of personality and social psychology* 69, no. 5 (1995): 797. and Steele, Claude M. "A threat in the air: How stereotypes shape intellectual identity and performance." *American psychologist* 52, no. 6 (1997): 613.
[240] Shih, Margaret, Todd L. Pittinsky, and Nalini Ambady. "Stereotype susceptibility: Identity salience and shifts in quantitative performance." *Psychological science* 10, no. 1 (1999): 80-83.
[241] Croizet, Jean-Claude, and Theresa Claire. "Extending the concept of stereotype threat to social class: The intellectual underperformance of students from low socioeconomic backgrounds." *Personality and Social Psychology Bulletin* 24, no. 6 (1998): 588-594.
[242] Hernanz, Virginia, Franck Malherbet, and Michele Pellizzari. "Take-Up of welfare benefits in OECD countries." (2004).
[243] Lin, Ann Chih, and David R. Harris. "The colors of poverty: Why racial & ethnic disparities persist." *Ann Arbor* 1001, no. 48109 (2009): 43091.

People want to pursue actions that further their self-integrity. They act in ways which will help build this kind of personal capital, even if it costs them in other areas of their lives. Fortunately, these effects can be countered, and positive effects can be had in the same way that the female Asian test subjects who were primed to think about their good math skills, performed better than an unprimed control group. These are called, "affirmation-interventions" (Cohen, Garcia, Apfel, & Master, 2006).[244] They include simple but intentional interventions like subtly reinforcing positive characteristics and identities; using language intentionally meant to not frame the poor as lesser or separate; and displaying clear paths and examples of how people coming from a poor background can still achieve educational and financial success.[245]

***Other Effects Sometimes Occurring***

An entire book could be dedicated to the dozens of other biases and nudges impacting residents in public housing. The above paragraphs have attempted to discuss the biases and heuristics unique to this situation, but many other factors are at play. After-all, in additional to whatever irrational behavioral factors are uniquely present in public housing and poverty, residents are still subject to all the normal biases and heuristics to which all people are subject. Outlined here are some additional factors that may have an increased effect in high poverty environments.

Inertia and status-quo bias was mentioned earlier in the paper in Chapter 2 and in discussion of the scarcity mindset in this chapter. While this is one of the more obvious biases, it is also one of the most powerful and omnipresent. Inertia can potentially explain why many

[244] Cohen, Geoffrey L., Julio Garcia, Nancy Apfel, and Allison Master. "Reducing the racial achievement gap: A social-psychological intervention." *Science* 313, no. 5791 (2006): 1307-1310.
[245] Supra., Note 186.

changes do not happen and more importantly why opportunities for change are not always taken advantage of. Voucher holders, for instance, do not always take the opportunity to relocate to nicer neighborhoods, even when the option is available. Over-optimism is also an obvious but powerful behavioral factor. All individuals overestimate their future selves and future ability to do things like pay back loans taken out. Unfortunately, the lower margin of error in poverty can make over-optimism a dangerous effect.

Perceived fairness is an interesting social factor not thoroughly discussed earlier. Individuals have a strong inclination toward fairness. We expect it from others and are inclined to practice it ourselves. [246] The flip side of this effect is that if we feel unfairness, we will act in ways seen as irrational to reconcile this. If individuals feel like they have been unfairly dealt with, they may be inclined to be less pro-social. Fairness concerns may also impact trust, a pillar so critical to daily interaction that heightened concerns about trust can lead to worse economic outcomes (Orbell & Dawes, 1991, 1993).[247] Concerns of trust have been shown to be more present for those in poverty, presumably because they have to deal with an environment with less social cohesion, less formal oversight, and more of a possibility of crime occurring (Hall, 2008).[248] Different levels of law abidingness and trust in authorities are shown to differ by socioeconomic class, and these class differences have been linked to levels of institutional trust (Tyler, 2001a; Tyler, 2001b). Levels of lower institutional trust may make those in high poverty

[246] Supra., Note 48.
[247] Orbell, John M., and Robyn M. Dawes. "Social welfare, cooperators' advantage, and the option of not playing the game." *American sociological review* (1993): 787-800.
[248] Hall, Crystal Celestine. *Decisions under poverty: A behavioral perspective on the decision making of the poor*. Princeton University, 2008.

likely to associate with institutions even when these institutions may be "rationally" beneficial.[249]

**Conclusion**

The problems *seen in* public housing can be overall described as problems emanating from several root cause problems: poverty, PHAs' lack of resources, and negative neighborhood effects. As figure 6.1 shows, the causes of all these problems are not all related to behavioral irrationalities, but as our discussion in this chapter shows, a surprising amount of these problems may be. Recent research into the "scarcity" mindset explains why poverty can be so mentally debilitating, looking at social dimensions of irrational behavior can reveal some of the hypothesized causal mechanisms of neighborhood effects, and a focus on an individual's premium placed on self-integrity can explain behaviors like not applying for critical public assistance. These biases and heuristics, combined with the litany of other behavioral factors people are subject to, helps show some of the irrational behavioral problems in public housing. The next chapter, Chapter 7, will explore potential behavioral interventions that can be used within the context of public housing to counter Chapter 6's behavioral problems.

[249] Tyler, Tom R. "Public trust and confidence in legal authorities: What do majority and minority group members want from the law and legal institutions?." *Behavioral Sciences & the Law* 19, no. 2 (2001): 215-235.

# CHAPTER 7:
# BEHAVIORAL SOLUTIONS TO THE PROBLEMS OF PUBLIC HOUSING

The focus of behavioral economics is at the hyper-specific level, so it can be difficult to imagine tackling large and imprecise problems, as are found in public housing, with single interventions. Behavioral economics relies on extensive experimentation and attention to context to work, so problems in which the specific, local, behavioral irrationalities can be pinpointed are ideal for change. For instance, if it was found that public housing residents weren't reporting crimes because the reporting system was too cumbersome, that would be a problem ideal for behavioral intervention. There are certain types of problems which behavioral economics has had the most success with, as Chapters 2 and 3 discussed.

As Chapters 5 and 6 covered, causal mechanisms behind many of the problems in public housings are still exceptionally questionable. Resultantly these interventions are sometimes inexact in what behavioral casual mechanism they are targeting. It would be ideal if researchers could clearly just slice the problems into clearly delineated causes, and for those which are related to "irrational" behaviors design some intervention, but neither our understanding of the causes of problems nor our comprehension of all the irrationalities of the human mind are adequate for such precision. Instead, we currently have a host of proposed causal behavioral mechanism which may or may not be in play for any certain problem.

In lieu of complete information on the type and extent of behavioral problems in public housing, this paper will proceed with its patchwork of recognized problems. By connecting the broad problems of public housing to potential and likely underlying behavioral problems, this paper can proceed to connect these behavioral problems to potential behavioral solutions in the form of behavioral interventions. Neither this paper nor behavioral economics proposes to "fix"

all the problems present in public housing, but a closer attentiveness to certain administrative elements of public housing promises marginal improvements at little cost.

**Behavioral Approaches to Countering Poverty**

Long-term approaches to countering problems in public housing must look at wider poverty-fighting policies if they are to have a significant impact on the lives of public housing residents. While the interventions listed in this report are those which can be implemented in or through public housing by a public housing authority and supporting agencies and non-profits, there are a number of broader behavioral interventions that have been used to fight the problems seen in poverty. This latter set of intervention can have a significant impact on public housing residents, and should be part of any well-designed set of behavioral interventions.

Behavioral economics practitioner groups have designed models through which poverty can holistically be combatted. Housing plays a large part of these approaches since it is the environment with which impoverished individuals interact with most often, but a fully-behaviorally informed approach to poverty must include more than that. While these holistic models are out of the immediate scope of this paper, a few will be covered here shortly to give perspective into what these interventions would look like and require.

The Behavioural Insights Team (BIT) suggests that combatting poverty is best done through a three-prong strategy of minimizing costs, maximizing resources, and preventing intergenerational poverty. Here one of the main things policymakers should be considerate of in their intervention is minimizing the bandwidth cost to people engaging with the government. BIT also suggests that there is a set of resources which contribute to an individual's chances of escaping poverty, referred to as different type of "capital" which must be accumulated. These

include: economic capital (income and wealth), human capital (education and work), environmental capital (housing and neighborhood), social capital (social networks and social trust), character capital (self-control and self-efficacy), and cognitive capital (mental bandwidth and freedom from behavioral biases).[250] Although all these have been discussed at some point in this paper, viewing these different aspects as types of capital to be gained is helpful to policymakers trying to be comprehensive and exhaustive in their efforts to combat poverty. BIT notes that, as this paper also has, there are various interactions between these different forms of capital that create both vicious and virtuous cycles. For example, through neighborhood effects, the areas in which one lives can affect the development of a number of different types of capital. Anti-poverty interventions must take account for these in planning out what policies to do when, as some types of capital can act prerequisite to the advanced development of others.

Ideas42, an academic-oriented non-profit that works with governments, businesses, foundations, and other non-governmental actors to implement behavioral economics, emphasizes that the key to fighting chronic scarcity lies in cutting the costs of poverty, creating slack to allow for adjustment to unanticipated shocks, and to instill in people a belief that they can escape the circumstances of poverty.[251] The non-profit, which includes a number of famous behavioral economists including Mullainathan and Shafir as advisors, emphasizes the shortcomings of traditional "rational-actor" approaches to poverty. Instead they urge a behavioral approach. For example, rather than humans being driven by stable preferences and values, Ideas42 views behavior as driven by preferences which vary over time and context. Instead of asking what

[250] Behavioural Insights Team. "Poverty and Decision-Making: How Behavioral Science can Improve Opportunity in the UK." Nesta. October 2016.
[251] Supra. Note 186.

people in poverty are doing wrong, they emphasize asking what poverty is doing to people to cause them to do things wrong.[252]

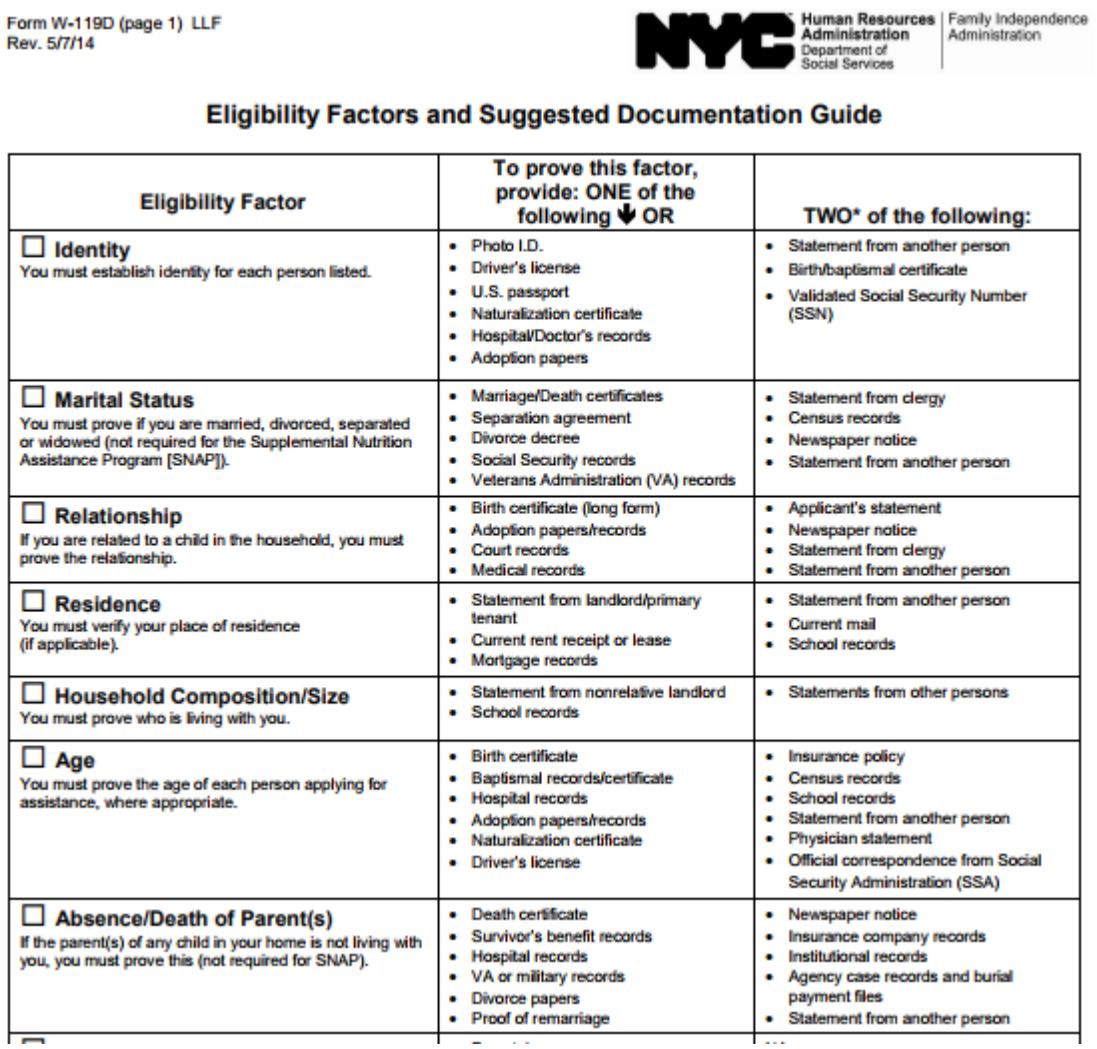
## Behavioral Interventions Within Public Housing

### *Simplify Processes in Public Housing*

*Intervention 1: Create a "Common Application" for Resident Programs*

The simplification of forms and services is a consistent area of behavioral economic success. This is especially important in light of the recognition of limited cognitive bandwidth and the tunneling effect it produces. These interventions also counter the problem of friction costs, in which small, seemingly unimportant barriers like complex forms, may deter individuals from taking actions even when they recognize these actions are in their best interests. Take the documentation required to enroll in many benefit programs. For residents with limited bandwidth, the number and breadth of documents required can be unnecessarily high. In New York, for example, an applicant to receive food stamps can be asked to provide up to 25 different documents to verify income and situation including school records, a car dealer's appraisal of a vehicle, and utility bills.[253] Keeping track of all this documentation and clearing up any errors is a burdensome task for any person, but for low-income individuals it can be especially hard. Add on the that the obligation to update your information for some of these programs annually to account for changes in living situation, and this process is made even more confusing. Instability

[252] Ibid.
[253] Access NYC. Required Documents, SNAP. Accessed December 3 2017



Form W-119D (page 1) LLF
Rev. 5/7/14

NYC Human Resources Administration Department of Social Services | Family Independence Administration

**Eligibility Factors and Suggested Documentation Guide**

| Eligibility Factor | To prove this factor, provide: ONE of the following ⬇ OR | TWO* of the following: |
|---|---|---|
| ☐ **Identity**<br>You must establish identity for each person listed. | • Photo I.D.<br>• Driver's license<br>• U.S. passport<br>• Naturalization certificate<br>• Hospital/Doctor's records<br>• Adoption papers | • Statement from another person<br>• Birth/baptismal certificate<br>• Validated Social Security Number (SSN) |
| ☐ **Marital Status**<br>You must prove if you are married, divorced, separated or widowed (not required for the Supplemental Nutrition Assistance Program [SNAP]). | • Marriage/Death certificates<br>• Separation agreement<br>• Divorce decree<br>• Social Security records<br>• Veterans Administration (VA) records | • Statement from clergy<br>• Census records<br>• Newspaper notice<br>• Statement from another person |
| ☐ **Relationship**<br>If you are related to a child in the household, you must prove the relationship. | • Birth certificate (long form)<br>• Adoption papers/records<br>• Court records<br>• Medical records | • Applicant's statement<br>• Newspaper notice<br>• Statement from clergy<br>• Statement from another person |
| ☐ **Residence**<br>You must verify your place of residence (if applicable). | • Statement from landlord/primary tenant<br>• Current rent receipt or lease<br>• Mortgage records | • Statement from another person<br>• Current mail<br>• School records |
| ☐ **Household Composition/Size**<br>You must prove who is living with you. | • Statement from nonrelative landlord<br>• School records | • Statements from other persons |
| ☐ **Age**<br>You must prove the age of each person applying for assistance, where appropriate. | • Birth certificate<br>• Baptismal records/certificate<br>• Hospital records<br>• Adoption papers/records<br>• Naturalization certificate<br>• Driver's license | • Insurance policy<br>• Census records<br>• School records<br>• Statement from another person<br>• Physician statement<br>• Official correspondence from Social Security Administration (SSA) |
| ☐ **Absence/Death of Parent(s)**<br>If the parent(s) of any child in your home is not living with you, you must prove this (not required for SNAP). | • Death certificate<br>• Survivor's benefit records<br>• Hospital records<br>• VA or military records<br>• Divorce papers<br>• Proof of remarriage | • Newspaper notice<br>• Insurance company records<br>• Institutional records<br>• Agency case records and burial payment files<br>• Statement from another person |

**Figure 7.1 The First Half of Page One Out of Five Pages of "Eligibility Factors" and Documentation Required.**

is innate to the lives of those in poverty. Income levels and benefits earned can change substantially each year as jobs are gained and lost, family members residing in the same residence shift, and different benefit programs phase in or out.

Instability in people's lives can mean lost or unobtained records. Combine that with existing bandwidth constraints, and the costs of assembling this documentation becomes magnified. Keep in mind that a high percentage of those in public housing are single mothers,

disabled, or elderly, so finding help when it is needed and arranging trips to the various offices administering public assistance can be unnecessarily difficult. Residents are potentially completing paperwork for a number of different benefit programs: TANF, food stamps (SNAP), housing assistance, disability, elderly supplemental security, etc. Ideas42 suggests that the burden brought by these processes could be substantially reduced by have a sort of "Common Application" similar in style to that which is used by many American universities. This would save time, energy, and critical bandwidth by reducing the number of different application which need to be filled out.[254] Since so much of this information needed is the same across the different applications, common types of information must only be input and proven once. Like with the college common application, if certain programs need additional information, the application can consolidate all the extra necessary requirements in one place. Residents can then fill these remaining requirements.

While simplifying which documents are really needed and lightening the burden on how often these forms need to be updated would likely prove efficacious, the ability to make this kind of a decision is not always available at the local level. To that point, the ability to make a common application for all benefit programs would require state and federal level approval. Fortunately, in programs run and administered by PHAs and other local groups there is more discretion. PHAs and connected non-profits often offer a number of different connected support programs ranging from childcare to job training. For these types of programs, a common application and other simplification strategies could be implemented at a more localized level over programs for which these groups have jurisdiction. This will obviously not be as effective

[254] Supra., Note 186. 23-25.

as the alternative of a universal common application, but until that kind of a system can be created, this is the available low-hanging fruit.

*Intervention 2: Use Technology to Consolidate Records and Prepopulate Fields*

As mentioned in the section above, those in poverty are forced to keep up with dozens of different records, many of which require annual updates, to qualify for public benefits. A relatively simply technology could be used to help residents keep track of all their forms in one consolidated place. PHAs can provide residents with a software program which allows all documents to be scanned and recorded in one place. Admittedly, this is essentially just a glorified digital folder with some security protection and a number of companies already provide this type of service, but that is the appeal of behavioral interventions. Doing small, easy things can make marginal improvements of outcomes by correcting for irrational behavior. The behavioral impact here would be a reduction of friction and bandwidth costs. A number of different improvements could be tacked on to existing systems. There could be an autofill function similar to that had in many internet browsers in which the software can detect what each piece of information means and automatically provide it when filling out forms or applications online.[255] Another potential feature could help residents manage updates that must be made to relevant forms by tracking when what updates need to be made where and highlighting or sending a notification to residents about each required update.

PHAs can provide the software and any required equipment like scanners. They can even house the digitized records for residents who do not have a computer. Since residents will likely need to hold on to the original copies of these forms, PHAs could also play a role in storing

[255] Idea for autofill function comes from Ideas42. Supra., Note 186.

forms for people in orderly locked filing cabinets to prevent loss or theft and the resultant potential identity fraud. Ultimately, this latter idea of physically storing resident's documentation might prove inefficient or infeasible, but small, easy to arrange interventions like this one ought to be constantly tried.

### *Improve Communications Between Residents and PHAs and Related Group*

*Intervention 1: Try to Use "Behavioral" Elements in Communications*

Behavioral economics has a number of different insights into how communications with residents can be improved. Everything about important forms and notices going to residents should be considered, as seemingly trivial details like wording, different types of appeals (ethos, pathos, and logos), and method of delivery may influence how residents respond to these communications. Letters designed to take advantage of behavioral factors were shown to be even more effective than small financial incentives at times.[256]

Housing authorities should avoid information overload, and apply simplification principles when possible through additions like highlighting all the most pertinent information at the top of a letter, and providing the details and fine print after. If a choice needs to be made, it is best to provide residents with a decision tree framework through which they can easier make the optimal choice. Figure 7.2 provides an example of a decision tree framework in the context of trying to explain to researchers what statistical test to use. In the context of public housing, a similar choice map graphic which identities certain qualities of the resident, then provides suggested options based on the resident's situation can convey information quickly and easily.

[256] Rice, Thomas. "The behavioral economics of health and health care." *Annual review of public health* 34 (2013): 431-447.

This would take the frame of something like “if income is greater an x, look at option branch 1; if income is lower than x, look at branch 2.”

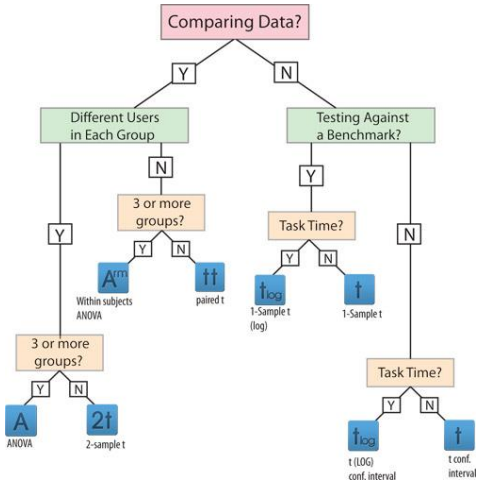



**Figure 7.2 Example of a Decision Tree Used to Map Out Choices. PHAs Could Provide Residents with These Kinds of Choice Mappings to Help Them Decide the Optimal Choice for Their Situation.**

PHAs should take care to broadcast positive messages rather than negative ones to avoid the unintended consequences of making bad actions seem normal. For example, broadcasting widespread failures in an effort to get residents to change whatever behavior is contributing to the failures may only have the effect of worsening those failures due to negative social norming. Thus, if, for example, residents are not properly disposing of trash or parking in proper spots, an email or letter advising residents to start doing these things because most others are not may only backfire. Rather than having the intended effect of “guilting” residents into starting to do these things correctly, this may only reinforce the notion that most people are not disposing their trash or parking correctly, so it is unimportant if I as an individual do these things.[257] Rather, messages ought to focus on good actions which all other residents are doing, or bad actions which all other residents are avoiding. Additionally, broadcasting negative messages can reinforce negative

[257] Dolan, Paul, Michael Hallsworth, David Halpern, Dominic King, and Ivo Vlaev. "MINDSPACE: influencing behaviour for public policy." (2010).

stereotypes and stigmas which undermines resident's view of their neighborhood and themselves. For example, the Earned Income Tax Credit (EITC) is a payment, but the focus is on the fact that residents earned this credit by working, not on the fact that it is in place to help low-income families.[258] Positive messages on the other hand can take advantage of the behavioral nudge of "priming," in which just by cueing someone to think about a certain aspect of themselves, this person's behavior can be changed. Studies have found that encouraging people to reflect on proud moments as parents, students, and/or employees can improve cognitive performance and increase ones willingness to participate in social programs (Hall, Shafir, & Zhao, 2014).[259] Ideas42 points out that priming can even have a positive impact on government staff in that priming staff of these groups to think about their identities as "public servants or compassionate individuals" made these employees more likely to act "in accordance with this image of themselves." [260]

*Intervention 2: Focus on Channel Factors to Provide Better Notification*

Channel factors, mentioned in this paper's opening, are stimuli which influence the progress of an individual toward some outcome. For example, specific plans in terms of setting a time and date to so something improves the likeliness that person will actually follow through on doing that thing. Voter turnout, for example, could be increased by 4.1% (9.1% among single-eligible voter households) by forming a voting plan (Nickerson & Rodgers, 2010).[261] PHAs

[258] Supra., Note 186.
[259] Hall, Crystal C., Jiaying Zhao, and Eldar Shafir. "Self-affirmation among the poor: Cognitive and behavioral implications." *Psychological Science* 25, no. 2 (2014): 619-625.
[260] Supra., Note 186 45.
[261] Nickerson, David W., and Todd Rogers. "Do you have a voting plan? Implementation intentions, voter turnout, and organic plan making." *Psychological Science* 21, no. 2 (2010): 194-199.

should take advantage of this when they need to motivate residents to take some action like visiting a certain office or healthcare professional.

Residents in some complexes complain that although many assistance programs and opportunities for employment and education are advertised, they are done so passively and without much attention to medium or timing. Letters may be sent out months before the deadline and emails may be sent as part of larger resident newsletters. According to residents, one has to be aware that such opportunities exist and then continuously be on the lookout if one hopes to take advantage of them. Effective channel factors can better present these opportunities. Employees of PHAs or other agencies will often visit homes in many PHAs to do inspection or provide some other services to residents.[262] This is a prime opportunity to make use of this interaction. Visiting employees can verbally tell the resident about an upcoming opportunity and provide something to them (a fridge magnet or simplified flyer) that reminds them of due dates and other relevant information. Each interaction between residents and employees is an opportunity to directly convey information, so this chance should not be missed.

Most official notices, especially those related to rent, utilities, and other financially related information, is sent via the traditional mail. Especially for residents of public housing who are prone to having outdated addresses and other problems receiving mail, these messages can frequently be overlooked or missed.[263] Fortunately, technology has proliferated to the point where most residents can be more easily contacted through other means. A survey of low-income individuals in New York revealed that 87% of them use a smartphone, and that these resident's

[262] Brooks, Amyia. The Challenges of Public Housing. NLCP: Christiana - SDP S2017, 2017
[263] Supra., Note 257.

preferred method of communication was text.[264] By providing text alerts and automated phone messages for important things related to payments or other opportunities clearer communication can be had. The high number of smartphones also opens up the possibility of other technological interventions that are based on behavioral science. Applications can be extremely helpful for behavioral strategies of simplification and leveraging channel factors, so PHAs should explore the possibility of releasing such technologies should a need be found.

*Intervention 3: Send Text Reminders to Avoid Costly Missed Appointments*

Certain public housing units in the United Kingdom and in the United States struggle with residents missing appointments.[265] Seemingly most prolific were appointments made between maintenance-people and residents. Maintenance-people would show up only to not be able to contact the resident. Given the limited bandwidth of those in poverty, and the lack of immediacy of many repairs, residents can be liable to not pay much attention to scheduled repair dates and times. There also may not have been a direct penalty to the individual for missed times, lessening their incentive to stick to formerly set times. Regardless of the reason for missed appointments, these harmless mistakes were costly because many maintenance-people get paid a flat fee just for showing up to an appointment. The United Kingdom's National Health Services (NHS) faced a similar issue with "did not attends" (DNAs) in which individuals scheduled a doctor visit, but did not come to it. BIT, tasked with solving this issue, was able to find that DNAs could be dramatically reduced (around 30%) by prompting patients to verbally repeat their scheduled time to staff and by using normative messaging to pull on the social norm that

[264] Significance Labs. Mobile tech & the potential for social impact: Insights from a survey on phone use among low-income New Yorkers. November 2014.
[265] Conversation with employee from behavioral insights team. November 2017.

almost all show up to their appointments (Martin et al; 2012).[266] Applying these same practices to missed maintenance requests may be similarly beneficial in public housing. Interventions like this are scalable to number of different interactions.

***Improve the Physical and Social Environment in Public Housing***

*Intervention 1: Add Murals and Other Art Projects*

Murals and other similar public art projects done in or near public housing have the potential to increase pro-social behavior, bolster resident's sense of attachment to their homes, and reduce petty crimes like vandalism. As an example of the effect negative social norming can have, researchers have found that graffiti, litter, and other small signs of violations of norms and laws can encourage others to also violate norms and laws.[267] Additionally, vandalism costs governments hundreds of millions a year to repair and replace damaged property.[268] Per incident costs of graffiti removal alone can be around $400, and even small cities like Oceanside, California end up budgeting hundreds of thousands of dollars to graffiti removal alone.[269] Murals, if painted in high vandalism areas, have the potential to reduce some of this cost and potentially provoke positive feelings.[270] For example, in London, Ogilvy change, a behavioral interventions-focus marketing agency, painted blue babies faces on shops which had been vandalized in rioting in Greenwich Borough. The firm had found evidence that the color blue lent a calming effect and that babies faces promoted a more pro-social caring response in those who saw the mural. As a result of the paintings, antisocial behavior dropped by nearly a

[266] Supra., Note 257.
[267] Keizer, Kees, Siegwart Lindenberg, and Linda Steg. "The spreading of disorder." *Science* 322, no. 5908 (2008): 1681-1685.
[268] Mayer, G. Roy, Tom Butterworth, Mary Nafpaktitis, and Beth Sulzer-Azaroff. "Preventing school vandalism and improving discipline: A three-year study." *Journal of applied behavior analysis* 16, no. 4 (1983): 355-369.
[269] Ibid.
[270] Project for Public Spaces. "Preventing Graffiti". January 1, 2009.

quarter.[271] Several other cities have already begun the use of murals on schools and different public areas.[272] New York City has recently even allocated money for murals to be painted in public housing (see figure 7.5).[273] The Mural Arts Program (MAP), a project in the poverty-stricken parts of Philadelphia, went even further (see figures 7.3 and 7.4). For two years, a combination of Dutch artists brought in by MAP and locals these artists trained transformed an entire run-down city block into a street covered in a smattering of upbeat colors in a northern Philadelphia neighborhood. Subsequent projects like these have since transformed other sections of Philadelphia in a similar way.


**Figure 7.3 Painting by MAP in North Philadelphia[274]**

[271] Local Government Association. "Babies of the borough – using behavioural insights to reduce anti-social behavior." November 29, 2017.
[272] Allen, Gregg. Art That Transformed A Miami Neighborhood Now Making Its Schools Cool. *NPR Morning Edition*. November 7, 2016.
[273] Hansman, Heather. New York City Is Paying Public Housing Residents to Paint Murals. *Smithsonian Magazine.* January 28, 2016.
[274] Ibid.

**Figure 7.4 Another Painting by MAP in North Philadelphia**[275]

Projects like these shape resident and public perception about a neighborhood from being dangerous and crime-ridden to artistic and exciting. Community art has been shown to improve individual's sense of well-being, social connectedness, and resilience.[276] This acts counters the stereotype threat in which perceptions help shape reality, and it strengths the force of self-affirmation discussed in the prior chapter.

[275] Ibid.
[276] Clawson, Heather J., and Kathleen Coolbaugh. "The YouthARTS Development Project. *Juvenile Justice Bulletin*." (2001). And Semenza, Jan C. "The intersection of urban planning, art, and public health: the Sunnyside Piazza." *American Journal of Public Health* 93, no. 9 (2003): 1439-1441.

**Figure 7.5 New York City Public Housing Mural[277]**

In response to these same factors, certain cities including Dallas, Denver, and Chicago have tried to use public graffiti walls, specifically designated to be painted on as a tool to reduce graffiti elsewhere.[278] These walls, dubbed "permission walls," are thought to give potential


**Figure 7.6 Denver "Permission Wall"[279]**

[277] Supra., Note 273.
[278] McGhee, Tom. "Permission walls help create a canvas for managing graffiti." *The Denver Post*. February 9, 2011.
[279] Ibid.

graffiti artists an outlet through which they can express themselves legally, rather than having to illegally vandalize property (see figure 7.6). While certain anecdotal local successes have been reported with this strategy, no cities on record have proven permission walls to be effective crime or graffiti deterrents. Perhaps counterintuitively, some cities have actually reported an increase in graffiti in the surrounding area, likely due to some kind of norming effect.[280] That said, some have reported that permission walls build a community's pride in an area or have other effects like drawing in visitors who then spend money in nearby stores.[281] Permission walls are an excellent example of how behavioral interventions must be tested and results monitored in each new context because counter-intuitive results do occur. Sometimes good-natured interventions can backfire if they are new ideas or old ideas applied in new settings.

*Intervention 2: Add Physical Interventions to Elicit Community*

Some public housing complexes have a strong sense of community, but many distressed complexes do not. Much of this is linked in a lack of social cohesion and trust. Positive social capital is a boon to a neighborhood because it increases pro-social behavior, positive reciprocity, and stronger informal social controls. In the past, public spaces like common areas and playgrounds were used to attempt to socialize residents, but many of these spaces became run down or too dangerous due to gang violence or drug dealing.[282] When possible PHAs should attempt to connect residents through community events and other gathering, but this is inadvisable in many distressed complexes with high rates of crime. Subtle interventions may be able to make residents feel more socially connected. Digital interventions seem available and

[280] Ibid.
[281] Ibid.
[282] Supra., Note 189.

fairly easy to implement. For example, some public housing units have community Facebook pages or other message boards through which residents can interact.[283] Physical changes to make residents feel more connected are harder, but many different things may be tried across different housing complexes. For example, for complexes with indoor hallways, hanging a framed photo of each family on or near their door may make residents feel more familiar with their neighbors. In the same vein, cork boards or similar posting boards can be added outside of rooms to allow residents to personalize their image to their neighbors by hanging more pictures, quotes, verses, decorations, or anything else near to them. This solution does have a high risk of backfiring if these boards or pictures are vandalized, and it would likely work best in complexes in which residents are all are nearly all elderly. For complexes with units opening to the outside, small front-yard spaces, sectioned off for each residence would allow small plants and flowers to be grown. This is something which many public housing complexes, build after and in response to the notorious public high-rises of Chicago, New York, and St. Louis, did try to include. Since demographics vary so largely between different complexes, the results of these interventions may vary widely.

*Intervention 3: Encourage Self-Affirmation Through Resident Social Solidarity Groups*

Groups of residents meeting to share and discuss the mutual problems they are facing has the potential to provide residents with a mutual support network, build social cohesion, and act as a force for self-affirmation for each individual involved. This may sound like a naïve, "after-school special", feel-good approach, with little chance of actual success, but there is significant evidence of the power of priming through self-affirmation in environments where stereotype

[283] Supra., Note 257.

threats are present. Affirmation of one's self and place in the world is important to people's cognitive capacity. An experiment in a New Jersey soup kitchen asked individuals to privately share a story about a "proud moment or past achievement" before taking a problem-solving test. Compared to individuals who only shared a story about their daily routine, the former "affirmation" group did better on the test (by the equivalent of a 10-point increase in IQ) and were more likely to accept information of government financial assistance when told they might be eligible (Hall, Zhao, & Shafir, 2014).[284] The same effect was not found for higher-income individuals when a similar test was run on them. This study is not an isolated finding. "Affirmation-interviews," have also been found to lessen the race achievement gap in high schools (Cohen, Garcia, Apfel, & Master, 2006).[285] Encouraging people to remember and focus on their values can improve the performance on tasks and tests for poor and minority candidates especially (Harackiewicz et al., 2014; The Behavioural Insights Team, 2015b).[286] And individuals who showed an internal locus of control (i.e., individuals who believe that outcomes depended primarily on their own efforts), searched harder in experiments mimicking job search behavior than those with an external locus of control (i.e., individuals who believe that outcomes are primarily matters of fate and chance) (McGee & McGee, 2015).[287] All this is not to say that a good pep-talk can cure poverty and that people can always successfully pull themselves up by

[284] Supra., Note 259.
[285] Supra, Note 244.
[286] Harackiewicz, Judith M., Elizabeth A. Canning, Yoi Tibbetts, Cynthia J. Giffen, Seth S. Blair, Douglas I. Rouse, and Janet S. Hyde. "Closing the social class achievement gap for first-generation students in undergraduate biology." *Journal of educational psychology* 106, no. 2 (2014): 375. Also, BIT conducted an RCT (n=1,593) in partnership with Avon and Somerset Constabulary to increase the success rate of applicants from a black or minority ethnic (BME) background during the police recruitment process (Behavioural Insights Team, and Great Britain. Update Report 2013-2015. Behavioural Insights Limited, 2015.)
[287] McGee, Andrew D. "How the perception of control influences unemployed job search." *ILR Review* 68, no. 1 (2015): 184-211.

their own bootstraps, but it is important to recognize that attitude and self-esteem can actually impact outcomes and demonstrated cognitive ability.[288]

This may not work at all complexes or among all age and gender groups. Different interventions ought to be tried with different mixes of demographics. For example, attempt all-male/all-female groups versus mixed gender groups. Also attempt all of a certain age group versus mixes of age groups. PHAs could also attempt to build groups based on identities residents may feel strongly attached to such as "parent", "struggling with a disability", or "pursuing higher education" to build trust within these solidarity groups. Residents certainly should not be defined by one-dimensional descriptions, but there is an opportunity where shared experiences might serve to connect strangers.

*Intervention 4: Allow Stable Residents Who Surpass the "Above-Income" Threshold the Option to Remain in Public Housing for a Phase Out Period*

Public housing's incentives for rational actors are not especially effective. Residents pay a maximum of 30% of their income as rent, and if residents go over a certain threshold (above 80% of local area median income), they are forced to leave public housing entirely. These kinds of incentives certainly do matter, but they are not the focus of this paper which seeks to look only at irrational behavior-related causes of problems in public housing. Behavioral economics does not reject that rational actor incentives exist, it merely suggests that they do not work perfectly and are sometimes influenced by other biases and heuristics.

The behavioral importance of kicking out "above-income" households is that these families or individuals can be sources of social stability for public housing complexes. These

[288] Ibid. and other above reference studies

households effectively can make public housing units "mixed income" in an organic fashion. One of the major shortcoming of mixed income complexes is that strong ties often do not develop between residents of different racial or class statuses to allow low-income individuals to reap some kind of social capital benefit. With this proposed arrangement, existing resident who have become higher-income, who presumably already have ties to a neighborhood can remain in an area to stabilize and benefit it. Some PHAs have already adopted lenient stances in letting above-income residents stay put, since these households are financially beneficial to the PHAs bottom line. In 2015 HUD estimates that some 25,226 above-income families resided in public housing (2.6% of all public housing residents).[289] The majority of these residents are not making more than $10,000 over the threshold, and HUD contends that these residents do not require subsidies and are reducing program costs by $116 million annually. Some proposals in Congress would create a phase-out period through which households which have become "above income" can stay put until earning more than 120% of median area income, then these households must move out or begin paying market rent.[290] Solutions like this can help to deconcentrate poverty, but since there is already a waitlist for many public housing residences, additional support (perhaps from the reduced HUD program costs) would need to be allocated to other housing solutions.

*Intervention 5: Involve Respected Authority Figures in Policing Public Housing*

Behavioral economics and marketing tell us that the messenger behind a product matters. Companies pay professional athletes fortunes to endorse their products, not out of the kindness of their hearts, but as part of a profit motive. Of course, it always remains to be seen how

[289] Supra., Note 88.
[290] Ibid.

effective a particular messenger will be in a particular circumstance. It might be intuitive that an athlete endorsing a sports drink will improve consumer perception of that drink and thus one's inclination to buy it, but does a celebrity's endorsement of a brand of toilet paper makes us want to buy that product more? In this circumstance perhaps our own mother's endorsement of a toilet paper brand would compel us more in a way that our mother's endorsement of a sports drink would not. Circumstance matters, so it is important to understand what messengers might generate the best response when. There is strong evidence that messages coming from close personal relationships can be used to reduce criminal activity (Sampson & Laub, 1993).[291] Operation Ceasefire, a program aimed to reduce youth gun violence in American cities like Boston and Cincinnati did this in part by using mothers to deliver messages to gang member. BIT, in looking to replicate the program for Scotland Yard, suggested the practice of having local mothers join the police on the beat in distress public housing units and other high poverty neighborhoods, to add to the credibility to the police.[292] Adding a local authority figure and a governmental authority figure in this way may improve the strength of both messages. These kinds of social norm shaping behaviors ought to be pursued more in public housing. The more residents can be brought in the shape a pro-social message in neighborhoods the better.

### ***Heighten PHA Accountability and Accessibility***

#### *Intervention 1: PHAs Hold Different Hours to Accommodate Resident and Applicant's Work and Education Schedules*

Many PHAs hold hours standard to most businesses in the United States: Monday to Friday 9am-5pm. While this makes sense for PHA employees, it hurts working residents and

[291] Laub, John H., and Robert J. Sampson. "Turning points in the life course: Why change matters to the study of crime." *Criminology* 31, no. 3 (1993): 301-325.
[292] Supra., Note 257.

those who desire to get jobs, as those hours are the most common in the work week. Many low-income jobs do not come with the considerable flexibility needed to take off in the middle of the workday to handle matters that would require going to the PHA office. Instead PHAs should adjust their hours to make them more accommodating to their residents. PHAs can still be open for a collective 40 hours, to avoid excessive costs like overtime pay, but they might decide to, for example, start opening one hour later each day and offer five hours on the weekend. Many different potential new schedules can be made, but the way to optimize operating hours is by keeping record of the busiest and least busy times and making hour adjustments accordingly. This same intervention has already been done at many other offices which assist low-income individuals, helping to reduce the bandwidth tax that comes with trying to find a way to get to these offices during open hours.[293]

*Intervention 2: Create an Easy to Use 3-1-1 Reporting System*

Residents have as much, if not more, of an interest in keeping public housing units clean and well-maintained as anyone. Unfortunately, they do not always have an easy way to go about conveying problems they have noticed to PHAs. Residents are the ones who spot all nature of problems in public housing, from leaky roofs and broken door handles to drug dealing and incidents of domestic violence. Establishing clear and hassle-free communication channels to PHAs and other local authorities is the first step in getting public housing residents involved in creating well-maintained and pro-social housing complexes. Part of this is solving for a problem of information asymmetry, but in a perfectly rational world, residents who would gain by seeing a problem go away would likely report it regardless of communication channel. Another part of this is a public good problem, in that the maintenance of safe public spaces at the neighborhood

[293] Supra., Note 186.

level is not the individual's main objective. Still a greater part of this probably lies in the hassle of reporting incidents after they are noticed. A resident might see a problem when coming home from work in the evening, but later forget about it or find it too much of a hassle to go to the PHA's offices the next day. If the PHA's offices are off-site, which is often the case, there is even less of a chance that a problem is reported. Contacting PHAs can be difficult, as they are often overwhelmed by callers and visitors, so emails and calls may go unanswered. Instead, PHAs should try to produce a text-in or webpage system which allows for residents to report non-emergency 3-1-1 incidents right away when they witness them. Ideally an identical system could be created for simplified maintenance requests too. The system would need to balance simplicity with flexibility, allowing reports to be simple and easy to do but all-encompassing in that all reports can go through one system. Still, there remains in many public housing communities a problem of institutional trust, which also likely inhibits reporting. Additional steps (including some behavioral interventions) need to be taken to maximize the efficacy of this kind of a solution. The next intervention will discuss one way to potentially do this.

*Intervention 3: Create a "Pizza-Tracker" Type Portal Showing Progress of Repairs, Applications, and Other Responses*

Behavioral economics type approaches may be newer to the policy realm, but long before behavioral economics became more codified and specific, it saw usage by the marketing business. Oftentimes still, policy makers may be able to take inspiration from marketing practices. Harvard Business School professor Michael Norton talks about the Dominos' "Pizza Tracker" for example. This piece of minor technology was able to build customer trust and thus

loyalty, even though customers are not really getting any new information.[294] More practically, it also gave people peace of mind and informed customers of when their pizza was in progress, reducing calls from concerned customers. To quote Norton, "There is something very psychologically compelling about having the feeling that [the pizza creation] is happening…in particular this feeling that someone is working for you…it means we're really important and the more we can see the process…the more we feel really good about that process." PHAs should opt to create a similar system in which residents can track their requests submitted with the

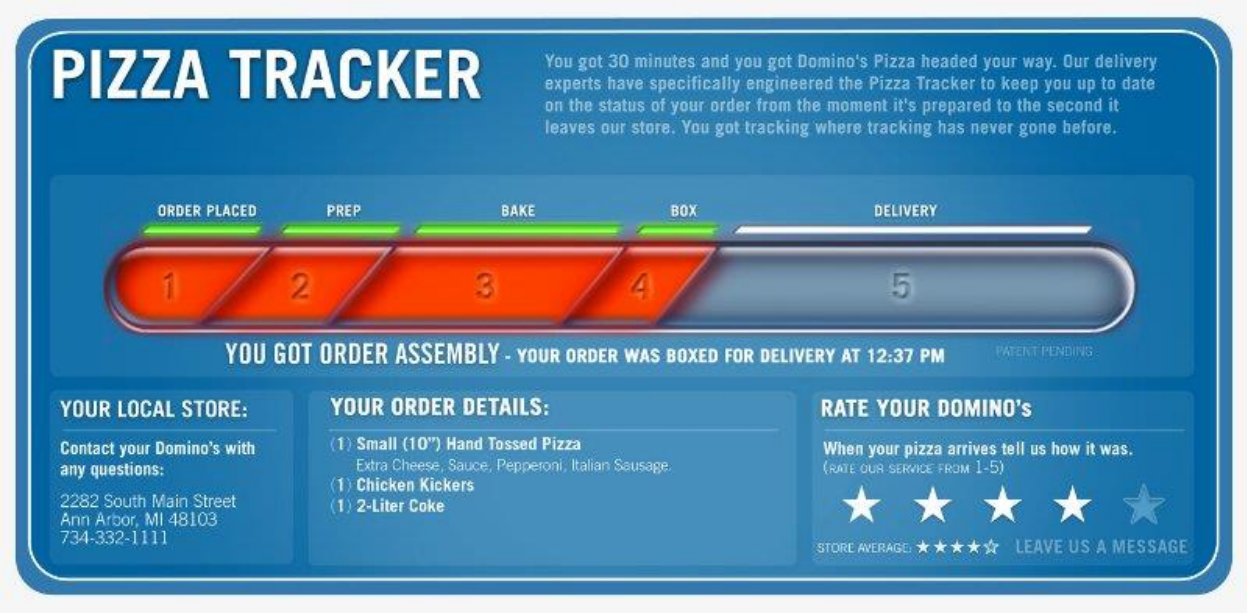



**Figure 7.7 Current "Pizza Tracker" that PHAs Can Design a "Request Tracker" After**

PHA for various things including maintenance requests, applications for various affiliate programs, and potentially even 3-1-1 requests for various non-emergency services around the housing complex like fixing a street light or filling a pothole in the parking lot. Each "tracker" could be semi-customized to show the exact stages through which a resident's request will go,

[294] Norton, Michael. "CLC Lecture Series — Trust and Transparency in Service Provision". Harvard Business School. Video. 2015.

and time estimates for completion of each stage can be given. Once the service is completed, residents can rate the quality of the work and responsiveness of the staff. PHAs could collect data on timeliness of completion and resident satisfaction. This is the idea for the simplest version of the tracker, but a number of different add-ons could be made. Contact information of relevant parties at each stage could be provided, so residents know who to contact if necessary, and they see more of a personal connection to whatever party is handling the request. Providing a specific name and picture of an individual, rather than just an office would make this especially effective. Residents could add comments at each stage if some aspect of their requests is updated or needs further commentary. PHAs and other servicing parties connected to the requests could also add commentary to detail the steps being taken. Residents could connect to the tracker through their mobile phones or computer. It has the advantage of building on a system already well known to most consumers—the pizza tracker—meaning that chances of confusion about the technology are lessened. Importantly, if PHAs adopt this system, they absolutely must keep it updated and operative, or the tracker loses all its effectiveness and residents will not bother to deal with it. If done right, this has the potential to assuage resident's concerns, create a clearer channel of communication between residents and government, and increase PHA accountability.

The hope is that this intervention, small though it may be, will make residents feel like they are having their concerns listened to, and PHAs will gain more of their trust and goodwill. Behavioral economics would suggest that this may lead to increased reciprocity, in which residents will begin to take more of an interest in cooperating with the PHA and other local officials. Additionally, residents will may start to take more of an interest in seeing repairs and other improvements happen if they can see signs of actual progress rather than just emailing a large, unresponsive, faceless agency. In the long run, the improved service of the tracker could

also help combat social stigma and the image that poor neighborhoods are not worth taking care of.

*Intervention 4: Have PHAs Pay Residents a Small Amount for Slow Responses*

Another way to gain trust from residents is by ensuring them that their requests will be heard and taken care of by a certain date. The above intervention will help residents by allowing them to see the process through which requests are handled and make them feel assured in seeing the specific individuals handling their requests. The integrity of this tacker and the simplified request system is dependent on requests actually being fulfilled. Unfortunately, in many public housing complexes, this is an aggressive assumption. Mostly of the solutions to fix the efficiency of PHAs and other servicing entities lies more in changing traditional incentives and regulations, but some behavioral interventions may prove effective. Simply offering residents small amounts of money if their requests are not fulfilled on time could be a substantial motivator for PHAs, and make residents see PHAs are serious about helping them. This incentive system could just apply to personal requests like repairs made within one's unit, or if PHAs are interested in further incentivizing pro-social behavior, this system could apply to some other 3-1-1 type requests for public good services like repairing potholes. If PHAs fulfill these requests in a timely manner, resident confidence will grow. The behavioral lever being pulled here is that of loss aversion. Losses hurt us psychologically more than gains help us. By switching the power dynamic here, PHAs are exposing themselves to loss, and the pains of losing money from already limited budgets rings larger than whatever ethereal potential gains the PHA would already have from fulfilling requests on time.

*Intervention 5: Have PHA and Resident BE "Ambassadors" to Help Look for Behavioral Lapses*

Clearly a broader point to be made in this discussion of interventions is that residents and employees working directly with PHAs are the most keenly aware of the small behavioral flaws taking place in each public housing complex. Residents can often see the gap between intentions of certain programs and reality. For example, maybe classes are being hosted which are not directly relevant enough to resident's lives. Similarly, employees can see where residents are consistently failing to meet certain expectations. Perhaps residents are unintentionally not signing up for credit union accounts offered through public housing partners which would allow residents to get cheap credit. Small, micro-level behavioral problems occurring in specific public housing complexes may go unnoticed to even behavioral economics-minded policy makers if these problems have not been noticed before in public housing (as discussed in Chapter 3). Thus, connecting behaviorally-informed policymakers in local government to these residents and front-line employees in some official capacity helps fill a critical information gap. This is similar to the way in which line-workers in manufacturing facilities are often the source of a number of small innovations because they can daily see what is going wrong and come up with clever solutions.

The exact method of how to connect residents and employees to city and local policymakers is not entirely clear, so PHAs ought to try a number of different arrangements to see what works best. The key is to have people at the local policy-making level who know behavioral economics and who are empowered to make behavioral interventions in public housing and other spaces. Select residents and employees can be picked and taught the basics of behavioral economics to understand if any of the problems they are seeing are irrational-behavior related. The behaviorally-informed policymakers will be there to help flesh out and vet the problems brought up by residents, and if a problem does appear to be the result of some irrational

behavior, the policymakers can design intervention. Additionally, when residents are treated as experts about their own problems, they are more likely to feel self-affirmation and to go along with resultant solution generated from discussions with policymakers.[295]

***Increase Savings in Public Housing***

*Intervention 1: Have a Portion of Rent Late Fees Go into a Long-Term Investment Account for the Late-Paying Resident*

Saving and asset accumulation was mentioned in the "Problems *Seen in* Public Housing" section of this paper because residents have crucially little in terms of assets, and most Americans at the level of poverty that public housing residents are in, are spending over 100% of their income. This means little to no savings accumulated, and without saving and investment, residents will have no way to earn money for retirement or other future investments like cars, homes, or funding for their children's education. Present bias afflicts residents who fail to save because future needs seem impossibly far off. Fortunately, behavioral economics has proven itself as an effective way to generate savings time and again.

Because residents do not have a substantial amount of money saved, misallocation of money one month can result in late rent payments. PHAs must punish residents like any other landlord would for not meeting rent or else there is no incentive for residents to pay on time. At the same time, PHAs, unlike normal private housing, has an additional goal of helping residents build their lives in the hopes that they will eventually escape poverty. A balanced approach would punish residents, but also assist them. PHAs can strike this balance and help residents overcome present bias by taking half (or some other fraction) of resident's late fees and putting

[295] Supra., Note 186.

that money into a long-term investment account which residents cannot access for some long-term duration (perhaps at least ten or more years). Residents will still feel the pain of having to pay late fees, but now they will have something tucked away for them in the long run. It is unlikely that this will incentivize residents to begin paying bills late more often now because some portion of their money is still lost, and the potential long-term gains are far outweighed by the pain of the loss of short-term loss of money that could have been spent immediately.

*Intervention 2: Provide Residents the Default Option to Pay Above 30% Rent with Whatever Portion Paid Above Automatically Put Into Savings for Them*

This intervention is almost similar to the former one, but it involves a voluntary sacrifice of money instead of a punitive one. Residents can choose to pay more in rent, potentially somewhere between 31% to 35% (residents currently pay 30% of rent to PHA), and whatever excess amount is paid, will be put into the same kind of long-term investment account for the resident. By paying just 3%-16% more in rent, residents can begin accumulating money.

Some might wonder why those who won't invest themselves, would voluntarily agree to pay higher rent. There are a few behavioral tricks here. First, this situation acts as a sort of commitment device, by which residents, once adjusting to the new status quo of paying slightly more rent, will likely feel about the same amount of financial pressure despite technically having less to spend. This clamps down on present bias by taking away the daily choice to not save. Instead, all residents have to do is make a one-time choice to opt in to the program. Present bias is flipped to work in favor of residents here as the loss of the future money that will be put in to savings is not felt strongly. To get residents to enroll in this program, PHAs can either make joining this kind of a program at some low level the default option, or PHAs can offer residents some short-term benefit, potentially a small amount of cash or entry into a raffle to win a

computer, in exchange for signing up. Similar to buying a candy bar at the check out line, this is an impulse buy, but with significant positive future benefits.

*Intervention 3: Reduce Resident Energy Consumption to Lessen Resident Utility Costs*

Energy and other utility costs may seem trivial in the grand scheme of all costs residents have to pay, but for the poor energy costs take up over 10% of their income.[296] This is well above the established "affordable energy" threshold which benchmarks affordable energy at no higher than 6% of annual income. For households below 50% of the federal poverty level, the percentage of income spent on energy is around 35%.[297]

Energy usage behavior is another topic that, like savings, has a fairly extensive literature in behavioral economics. By modifying bills to include a comparative look at how a certain household's energy usage compares to the whole of that household's neighborhood, individual households can face a social norming effect that studies have shown results in a consistent reduction of energy usage by roughly 2% (Schultz et al, 2007).[298] The type of chart shown below in figure 7.8 with a simple visualization of comparative energy usage shown through a bar graph, and emoticon faces showed to be effective. PHAs can work with energy service providers to get them to begin using this intervention on bills sent within public housing residences. For the average public housing resident living in an apartment, the effect of this interventions would be small annually, but if the aggregate energy savings could scaled across all public housing units,

[296] Chandler, Adam. " Where the Poor Spend More Than 10 Percent of Their Income on Energy." *The Atlantic*. June 8, 2016.
[297] Idib.
[298] Schultz, P. Wesley, Jessica M. Nolan, Robert B. Cialdini, Noah J. Goldstein, and Vladas Griskevicius. "The constructive, destructive, and reconstructive power of social norms." *Psychological science* 18, no. 5 (2007): 429-434.

potentially tens of millions could be saved per year for residents just by changing a few words and pictures on bills.[299]


**Figure 7.8 Example of a Chart Used in "Social-Norming" Energy Conservation Interventions[300]**

## Conclusion: Potential Further Areas for Behavioral Interventions

The examples provided above should highlight the relative ease with which new behavioral interventions can be made. As Chapter 3 discussed, by combining "front-lines" civil servants with local policymakers who understand behavioral economics, many more interventions could be created. A few problems which might be the focus for future behavioral interventions include: increasing social capital in housing projects, creating social ties between mixed income and mixed race residents, modifying voucher programs to encourage voucher recipients to move to areas of low poverty concentration, stopping gang-related activities in public housing, and reducing littering and other public space upkeep problems.

[299] Zillow estimates that the average apartment resident spends at least $200 a month on utilities. By calculating yearly costs from that number and multiplying that by the 2% reduction, one gets roughly $50 per household per year. This is not much, but for a low-income resident making a median low-income wage, of about $14,000, this is almost ½ a percent of their yearly income. If adopted in every public housing unit in America, this is $55 million worth of value created out of thin air. Considering this is a minor and nearly costless intervention, it seems worth taking.

[300] Supra. Note 298.

# CHAPTER 8:
# CONCLUSION AND TAKEAWAYS

This paper has discussed problems in public housing in fairly broad terms, without limiting to a specific city or type of public housing complex. This is done in lieu of discovering a few hyper-specific, immediately implementable behavioral interventions because this paper is attempting to look at a broad area of potential interventions in the relatively unexplored area of behavioral economics in public housing. Local behaviorally informed policy makers who are looking at specific problems in specific cities or regions will want to narrow more to be able to discuss the exact problems seen in a specific policy area, before then taking this information and looking for behavioral problems.

For example, perhaps a behaviorally-oriented policymaker wants to look at how the city can better collect trash and recyclable products. She may start by finding all the problems that exist in the city's waste management programs, then zoom in on a specific problem. Perhaps in this city, waste is not sorted well between recyclable products and normal trash. The policymaker can then look at all the problems in depth here. What kind of products are being mis-sorted most often? How much is mis-sorted? Is the problem occurring primarily among one type of disposer instead of others (i.e., perhaps residential areas are worse at sorting than business and industrial disposers)? From these exact observations of the problem, policymakers can then pull out the behavioral problems and design interventions. Knowing the exactness of problems like this has the potential to generate keener insights and better interventions, but it almost certainly necessitates that public servants be brought in and involved in the problem identification process.

**The Limits of Behavioral Intervention**

If the solutions put forward here seem an insufficient response to the magnitude of public housing's problems that is because they are. Are murals, simple forms, and reminder texts going to cure poverty and turn around public housing alone? Absolutely not. But that is not the appeal of behavioral economics. The appeal is that small modifications to existing practices, meaning low costs and often little work, can have outsized effects. Behavioral economics is not meant to be a cure to all of society's ills. When correctly applied, behavioral economics is a clever way to go about making an impact in programs on the margin. Save a few exceptional interventions, behavioral economics is not a silver bullet. Still, on a benefits per cost basis, behavioral economics has been quite successful.

Additionally, many of these proposed nudges are either new or being applied to a new area. Because of this there is no guarantee that they will prove successful. Behavioral policy makers must test these proposed interventions to find if they work in a specific context. Again, these intervention proposals are not the end all be all of behavioral economics in public housing. These interventions should instead spark further interest in looking at policy problems with a behavioral economics lens. If scaled across multiple areas, the small, marginal effects of behavioral economics can have a sizable impact.

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## APPENDIX A: GLOSSARY OF TERMS AND SPECIFIC USAGE

| Term | Specific Usage in Paper |
|---|---|
| **Rational** | Relating to the behaviors of "rational" economic actors in which individuals make prudent, logical decisions to maximize personal utility |
| **Irrational** | Relating to the behaviors not in line with the actions of a "rational" economic actor |
| **Intervention** | Subtle modifications to environments and/or processes which try to influence behaviors and other outcomes in a certain direction by tapping in to behavioral principles |
| **Behavioral Principle** | Primarily refers to biases and heuristics, but also includes other "problems" with human behavior such as habits and cognitive limitations |
| **Behavioral Failure** | Failing to act in accordance with a "rational" actor model |
| **Rational-Actor Tool** | The traditionally used motivators in line with the rational actor model: incentives, information, and regulation. |
| **Behavioral Tool/ Behavioral Intervention (aka: Irrational-Actor Tool)** | Used interchangeably with "intervention" (see definition above) |
| **Behaviorally-informed Policymaker** | Policymakers who have in-depth knowledge of both behavioral economics and their specific policy realms |
| **"Front-lines" Civil Servant** | Includes all local government employees who interact with the public and observe day-to-day irrationalities |
| **Behavioral Economics "Codex"** | An amalgamation of all the research done into behavioral principles and interventions which represents the collective knowledge of all of behavioral economics |

## APPENDIX B: FRAMEWORKS TO THINK ABOUT CREATING INTERVENTIONS

As behavioral economics has blossomed in academia, its followership has expanded beyond academics to include professions such as marketers, policymakers, politicians, social entrepreneurs, philanthropists, and more. Behavioral economics practitioners, a small but increasingly influential group, work to determine ways to model human behavior and corresponding interventions to change human behavior. With this, a whole host of organizations have formed, hoping to leverage behavioral change. These organizations put out a number of guiding frameworks for how to create successful interventions. A few of these frameworks will be discussed here to give an idea of what factors need to be looked at in designing and implementing an intervention.

One of the most comprehensive of these frameworks is *Mindspace: Influencing Behaviour Through Public Policy,* put out by the United Kingdom's Institute for Government.[301] The title, *Mindspace,* is actually a mnemonic device that represents a "check-list" for behavioral interventions when making policies: Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitments, and Ego. Many of these interventions were mentioned in the section above. This report is coupled with a framework called the 6Es, built for applying these interventions into the real policy world. Four actions (the "Es") should be the foundation for attempting to change behavior: Enable, Encourage, Engage, Exemplify. Additionally, Exploration should be done before the implementation of the policy and Evaluation should be done after and at iterative times in the future to gauge success. See *Mindspace* for more.[302]

[301] Supra., Note 257.
[302] Ibid.

The BIT also identified four simple ways to encourage positive behaviors through interventions by leveraging the team's work and academic literature. BIT has compiled these methods into the EAST framework, which encourages policymakers to keep their interventions Easy, Attractive, Social, and Timely.[303] Planners ought to strive for interventions which make it easy for individuals to get past the small, seemingly insignificant barriers—friction costs—which were discussed earlier. Increasing ease of use or enrollment is one of the easiest ways to increase an intervention's effectiveness. Interventions ought to make the socially desirable also attractive by both drawing attention to said thing and making it more appealing. Much as the private sector has already been doing through marketing, the public sector can do to make socially desirable services attractive. Social factors, a catch all for a number of different social influences, are important influences on how people act. Individuals generally conform to the standard set by those around them, and social pressures and commitment devices can encourage certain behavior. Finally, interventions must be timely in that the responses of individuals can vary based on when the individuals are confronted with the intervention. Environment, current stage in life, peer influences, and more can make a difference in how responsive people are to intervention, so pressing an intervention at the right time can significantly change outcomes, especially when dealing with the sometimes marginal effects present in behavioral economics. Many of these qualities in the EAST framework have already been evident in earlier discussed interventions, but the EAST framework provides a simple reminder of intervention tactics that can be widely used. See *EAST: Four Simple Ways to Apply Behavioural Insights* for more information.[304]

[303] Supra., Note 221.
[304] Ibid.

When looking at existing programs, behavioral solutions begin with the recognition of the problems in a program that is of interest to the agency or group that is seeking policy improvement. From there, policymakers ought to gather data and create a process map of how this problem manifests itself within individuals.[305] Ideas42, a social enterprise utilizing behavioral solutions to solve societal problems, emphasizes that after mapping out a problem, the key is to look for "bottlenecks," or places at which the program is not performing as expected or hoped.[306] Then, policymakers have to brainstorm what behavioral irrationalities might be causing these bottlenecks and/or what behavioral interventions may assist in "unclogging" these critical points. Once some ideas are had, the experimentation stage begins. Again, due to the extremely empirical nature of behavioral economics, randomized control trials are the best way to approach behavioral solutions. For more information see Ideas42's report *BIAS: Behavioral Economics and Social Policy*.[307]

[305] Ideas42. "Behavioral Economics and Social Policy: Designing Innovative Solutions for Programs Supported by the Administration for Children and Families." Ideas42. (April 2014).
[306] Ibid.
[307] Ibid.

## APPENDIX C: FEDERAL RENTAL ASSISTANCE PROGRAMS (PROVIDED BY THE CENTER ON BUDGET AND POLICY PRIORITIES)

Federal housing programs provide a range of assistance, including grants or tax credits that provide incentives for the production of rental housing, the mortgage interest deduction, and rental assistance programs that subsidize rents based on household income. The US Department of Housing and Urban Development (HUD) and the US Department of Agriculture (USDA) administer rental assistance programs that generate income-based rents for residents. By linking rents to residents' income, these programs are fundamentally different from the Low-Income Housing Tax Credit, which increases the supply of rent-restricted housing but does not ensure affordability at the household level.

The main federal rental assistance programs are as follows:

- **Housing Choice Vouchers.** Housing Choice Vouchers, or "Section 8," provide rental assistance to more than 5 million people in 2.2 million households. Vouchers can be used in a variety of neighborhoods and offer more locational choice than other rental assistance programs. It is targeted for low-income tenants, and 75 percent of voucher must go to extremely low–income households. Once a household receives a voucher from the local public housing authority (PHA), they typically have 60 days to find a unit that meets federal quality standards and whose landlord will accept a voucher. Most households pay the higher of 30 percent of income or $50 in rent.
- **Public housing.** Public housing units are owned and managed by PHAs. Tenants sign leases and pay rent directly to PHAs. Approximately 1.1 million public housing units exist in the US, and the subsidy stays with the units, not the household. Households must have incomes below approximately 80 percent of the area median income (AMI) to qualify for public housing, but housing authorities often give preference to households that are homeless, over age 55, or have income below 30 percent of the AMI. As with vouchers, most households pay the higher of 30 percent of income or $50 in rent.
- **Project-Based Section 8.** Project-based Section 8, also referred to as project-based rental assistance (PBRA), subsidizes housing for more than 1.2 million households. Households must have income below approximately 80 percent of the AMI to qualify, but at least 40 percent of units in each development must go to extremely low–income households. The developments are operated by private for-profit or nonprofit owners and subsidized through multiyear agreements with HUD. The funding for rental assistance payments is subject to annual congressional appropriations. Households pay the higher of 30 percent of income or $25 in rent.
- **Project-based vouchers.** Although most Housing Choice Vouchers are tenant based, PHAs may opt to link a portion of their vouchers to specific housing units. Because PBRA contracts are not available, PHAs may use project-based vouchers to subsidize developments that would otherwise not be financially feasible, such as permanent supportive housing. Developments typically have 20-year contracts with the PHA for the units. Households renting a unit with a project-based voucher typically pay 30 percent of

income for rent and utilities and are subject to the same income limits as any other voucher household.

- **Section 202 Housing for the Elderly.** HUD's Section 202 program serves very low–income seniors and disabled persons and provides interest-free capital and operating funds to nonprofit organizations that develop and operate housing and related facilities. Funding also covers project rental assistance, so that seniors pay only 30 percent of their income to rent.
- **Section 521 Rural Rental Assistance.** Administered by the USDA, Section 521 supplements tenants' rent payments so that households' rent contributions stay under 30 percent of income for eligible households living in units constructed or renovated through the direct loan program Section 515.

Source: See the Policy Basics series at "Housing," Center on Budget and Policy Priorities, accessed December 5, 2017, https://www.cbpp.org/topics/housing.